LAMAR UNIVERSITY-BEAUMONT
0 00 01 0713582 4

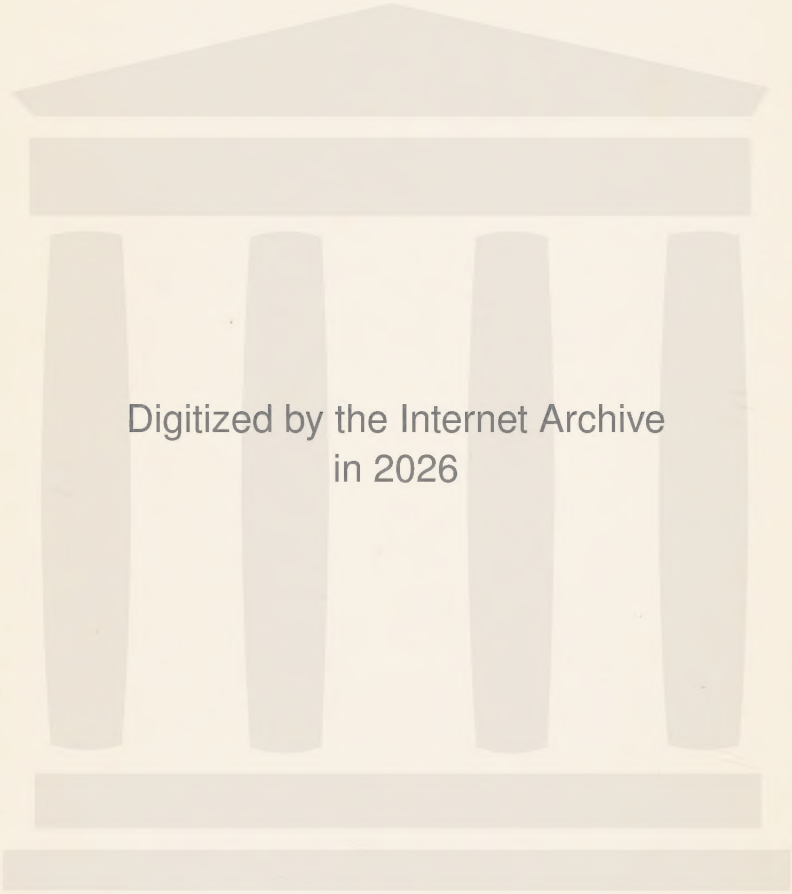
LAMAR UNIVERSITY-BEAUMONT
0 00 01 0139713 1

F
209
S72
vol.5

The South in the building of the Nation.

Lamar State College of Technology
Beaumont, Texas

PRINTED IN U.S.A.


Digitized by the Internet Archive
in 2026

https://archive.org/details/southninbuilding0005vari

Southern Economic History.

COTTON MILL, AUGUSTA, GEORGIA.

975
S72
Vol. 5
890948

THE SOUTH *in the* Building *of the* Nation

HISTORY OF THE SOUTHERN STATES DESIGNED *to* RECORD *the* SOUTH'S PART *in the* MAKING *of the* AMERICAN NATION; *to* PORTRAY *the* CHARACTER *and* GENIUS, *to* CHRONICLE *the* ACHIEVEMENTS *and* PROGRESS *and to* ILLUSTRATE *the* LIFE *and* TRADITIONS *of the* SOUTHERN PEOPLE

VOLUME V

COMPLETE IN TWELVE VOLUMES

The SOUTHERN HISTORICAL PUBLICATION SOCIETY
RICHMOND, VIRGINIA

CONTENTS OF VOLUME V.

ECONOMIC HISTORY, 1607–1865.

THE GENERAL CONDITIONS OF SOUTHERN ECONOMIC LIFE. Page.

The Physical Features and the Natural Resources of the South..... 1
Immigration and Population of the South to 1783..... 12
The Indian Population of the South..... 21
Influence of British Colonial Policy upon the South During the Colonial Period..... 26

LAND.

The Development of a Productive Area in the Settlement of the Colonial South to 1783..... 34
The Expansion of the Area of Cultivation, 1783-1865..... 40
Land Systems of the Southern Colonies of England and of the South Atlantic States..... 43
Latin Land Laws and Land Systems in the South..... 53
The Public Land Systems of the State and Federal Governments in the South..... 67
The Plantation and Farm Systems in Southern Agriculture..... 73
Improvement in Plantation and Farm Production..... 80

LABOR.

The Development of Labor Systems in the Colonial South..... 86
Servitude in the Ante-Bellum South..... 94
The Slave-Labor System in the Ante-Bellum South..... 104
The Economics of Slave Labor in the South..... 121
The Economics of the Slave Trade, Foreign and Domestic..... 124
Convict and Apprentice Labor in the South..... 130
Free Contract Labor in the Ante-Bellum South..... 134
Labor Organizations in the South..... 144
The Labor Force and Labor Conditions, 1861-1865..... 146

AGRICULTURE.

Characteristic Methods of Southern Agricultural Production..... 152
Tobacco Culture in the South..... 158
Rice Planting in the Agricultural Development of the South..... 169
Indigo Culture in the South..... 178
Sugar Products in the South..... 184
The History of Cotton Planting in the South..... 197
The History of Cereal Farming in the South..... 212
Grass and Forage Crop Farming in the South..... 222
Southern Hemp and Flax Production..... 229
Vegetables, Fruit and Nursery Products, and Truck Farming in the South 236
The Animal Industry of the South..... 242
Southern Forests Products and the Destruction of Forests..... 257
Game and Game Protection in the South..... 263
Fisheries in the Ante-Bellum South..... 267
Pearl Fisheries in the South..... 271
Oyster Products in the South..... 272

MINES AND MINING.

Products of Mines, and Mining..... 275

MANUFACTURES.

Colonial Manufactures..... 299
Manufactures During the Ante-Bellum and War Periods..... 313

TRANSPORTATION AND COMMUNICATION.

Waterways and Transportation by Water in the South..... 336
Roads in the Southern States..... 343
Internal Improvements in the South..... 351
Railroads in the South..... 358
The Merchant Marine of the South..... 367
Telegraphic Communication in the South..... 372
Street Railways in the Old South..... 376

CONTENTS.

COMMERCE. Page.

United States Treaties and Foreign Commercial Policies Affecting Southern Economic Development 381
The Foreign Commerce of the South 393
The Influence of the Factorage System, Foreign and Domestic, on Southern Agriculture 398
The Interstate Commerce of the South 404
The Growth of the Southern Ports 412

VALUE AND EXCHANGE.

Real and Personal Property Values in the Ante-Bellum South 418
The Effect of the Civil War Upon Real and Personal Property Values in the South 422
Fluctuations in Agricultural Prices and Wages in the South 426
Financial Crises in the Ante-Bellum South 435

MONEY, CREDIT, AND BANKING.

Colonial and Early State Currency in the South to 1791 442
The Currency and Currency Problems in the South, 1791 to 1865 447
Confederate and State Currency during the War between the States 453
Agricultural Credit and Crop Mortgages in the South 457
Banking in the South 461

GENERAL ECONOMIC AND POLITICAL CONDITIONS.

1. Relation of Government to Agriculture and Industry.

State and Local Public Regulation of Industry in the South 475
Economic Activities of the Confederate Government 478
Activities of the Federal Government in Southern Industry and Commerce 482
The Economic Influence of the Tariff Policy of the United States in the South 487

2. Finance.

The Finances of the Southern Confederacy 494
The State Finances of Alabama 498
The Finances of Arkansas 501
The Finances of Florida 504
The State Finances of Georgia 508
The State Finances of Kentucky 511
The State Finances of Louisiana 516
The Finances of Maryland 518
The State Finances of Mississippi 523
The State Finances of Missouri 526
The State Finances of North Carolina 529
The Finances of South Carolina 532
The State Finances of Texas 537
The State Finances of Virginia 540
The Finances of Tennessee 543

3. Economic Progress and Problems.

The Influence of the Press in Southern Economic Development 546
State and Local Agencies for the Promotion of Agriculture and Mining 551
Economic Statistics in the South 563
Contributions of the South to Economic Thought and Writing to 1865 564
Land Reclamation in the South 577
Utilization of Southern Water Powers 580
Southern Agricultural Fairs and Expositions 586
Economic Experiments in Coöperation 592

GENERAL SOCIAL CONDITIONS.

Immigration to the Southern States, 1783-1865 595
Population of the South to 1865 606
The Economic Aspects of the Rural and Urban Movements of Population in the South 613
Southern Emigration to the North and West 620
The Wealth of the South 624
Property Insurance in the South 631
Life Insurance in the South 638

THE CIVIL WAR AND SOUTHERN ECONOMIC DEVELOPMENT.

The Economic Causes of the Civil War 656
The Economic Conditions in the South During the Civil War 668

EDITOR'S INTRODUCTION.

Not since the Louisiana economist, J. D. B. DeBow, published his volumes entitled, *The Industrial Resources, etc., of the Southern and Western States,* more than a half-century ago, has any similarly comprehensive attempt been made to record, in a systematic and coöperative compilation, the economic progress and conditions of the South. This work, though valuable as a source of information to the student, has long been out of print, and is inaccessible as far as the general public is concerned. But so much of a special or monographic character has been written and published since DeBow first edited his volumes in 1852-53, and so many valuable investigations have been pursued by state, national, and private organizations, and by individuals, that sufficient reliable data exist for presenting in these two volumes an interesting, though necessarily brief, account of the material progress of the South, from the beginning of its colonization by England in 1607 to the end of the year 1909.

The general plan of the publishers of this work on *Southern Economic History and Conditions* was for an encyclopædic and coöperative production conforming to the type set by the other volumes of the series, The South in the Building of the Nation, in which these volumes appear as Volume V and Volume VI, respectively. While these limitations and that of the narrowly restricted space allowed

contributors have necessitated some regrettable sacrifice of the unity, coördination, and completeness that might be desired in a work upon this subject, it has nevertheless been possible for the editor to secure the collaboration of so many recognized authorities, especially equipped for the investigation and discussion of a wide range of important topics, that the result is probably of greater value than it would have been if, in the present unsatisfactory condition of uncollected or limited American economic source material, a more ambitious and consecutive history of Southern economic development had been attempted.

Such coördination and unity as it was possible to effect under the actual conditions and limitations experienced, the editor has endeavored to provide in a sectional subdivision of the subject and in the selection and arrangement of topics for the writers. For this portion of the plan, and for the designation and selection of his collaborating authors, he is solely responsible. The opinions and facts stated in their articles and bibliographies are those of the respective writers. The bibliographies were designed not so much to present all the sources of information used by the authors as to afford a guide to readers desiring fuller and more detailed accounts of the subject matter there discussed. A carefully prepared plan to standardize these bibliographies, requiring author's name, initials, exact title of the work taken from its title page, number of volumes, place and date of publication, was submitted in the desire for uniformity, and where these bibliographies have been sent to the editor he has endeavored to secure this end. So far as has been, and shall be, possible for him, the editor has attempted, and will continue as the work proceeds, to secure complete accuracy in all details, mechanical and otherwise,

that fall within his province and are duly submitted to him by the publishers.

The present volume, Volume V, is primarily concerned with the facts of Southern economic history and relates to the period 1607-1865, the ante-bellum and war periods. The subsequent volume, Volume VI, considers more particularly the economic progress and conditions in the Southern states, 1865-1909, beginning with the Reconstruction era and ending with the outlook for the immediate future of the South. The plan of these two volumes, as respects each other, is designedly the same in general topic arrangement both for the convenience of the reader and for the more important end of disclosing exactly what the historical development of the South in certain lines has been, and for permitting an intelligent comparison of the two great economic as well as political eras in her history. The results of this will doubtless be surprising to many who have been accustomed to take an *a priori* view of Southern questions. It appears that in many departments of material advance, in manufactures and water-power development for instance, the South had begun before the War between the States to lay the foundation of a subsequent success. Her economic development has been more gradual, constant (with the exception of the war and the Reconstruction periods), and perhaps more consistent with the past than has hitherto been generally admitted. The interesting question of the relative responsibility of slavery, a form of labor organization, and of the actual labor force as developing or retarding factors in her economic achievement, appears in clearer light. The remarkable debt that the North and West owe to the South for an important element of their population and development, and the no less striking one that the South owes to the Northerners and Westerners who

came within her borders and aided so materially in shaping her destinies both before and since the war, should be but the evidence and earnest of the larger Americanism that knows no boundary of sectional feeling and prejudice, but is impelled by a common patriotic and business purpose.

The spirit desired to be maintained by all those connected with these volumes is national and not sectional, and their object has been to treat the topics in their general rather than in their merely local relations. Writers of Southern, Northern, and Western origin or residence have been selected with sole regard to their demonstrated special fitness as authorities upon the respective topics, and with no consideration of imaginary sectional feelings or interests. For the perfect harmony and cordial good will with which these collaborators have coöperated with the editor and publishers to make this work a success he desires to express to them his warm appreciation. Especial thanks and recognition are also due to the late Hon. Carroll D. Wright, Director, and to the Department of Economics and Sociology of the Carnegie Institution of Washington for the generous permission to enlist as contributors a number of the collaborators of that Department who have been engaged in special investigations relating to the Southern states. Finally, the editor desires to acknowledge his many obligations to his colleagues, Professors Jacob H. Hollander, Edward B. Mathews, and George E. Barnett, and to his former colleague Professor Charles M. Andrews, of the Johns Hopkins University, for his kindly advice and for material assistance in proof-reading.

The Economic South here interpreted comprises the area of the following political divisions of the United States: Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida,

Alabama, Mississippi, Louisiana, Texas, Arkansas, Indian Territory and Oklahoma, Missouri, Kentucky, and Tennessee.

While these volumes, as a pioneer and preliminary "breaking of ground" in a very wide and prolific field of inquiry, are not put forth as final, it is to be hoped that they may at least serve the double purpose of conveying useful information, not elsewhere readily accessible, and of stimulating further contributions in an interesting and profitable branch of American historical investigation.

JAMES CURTIS BALLAGH.

JOHNS HOPKINS UNIVERSITY,
July, 1910.

ECONOMIC HISTORY, 1607–1865.

THE GENERAL CONDITIONS OF SOUTHERN ECONOMIC LIFE.

THE PHYSICAL FEATURES AND NATURAL RESOURCES OF THE SOUTH.

THE physical features of the South, in their relation to its economic development, may be considered as natural and derived. Among the first are included the physiographic or surface configuration; the geology; the soils and climate; the animal, forest, and plant life.

Among the derived natural features are the means of transportation, largely dependent on the physiography; the mineral wealth, dependent upon a contemporaneous knowledge and availability of deposits of substances in demand; agricultural soils, dependent upon the knowledge of their adaptability to the production of crops then in demand; and the knowledge of and demand for various forms of animal and plant production.

The first, or natural features, remain practically constant, while the derived features vary in their influence with changes in the demand, increase in knowledge or availability and ultimately in their conservation or exhaustion. Illustrating this general statement may be cited the facts that the surface configuration and climate of the South to-day are the same as they were at its discovery, their influence has, however, by transportation and proper housing appreciably decreased. On the other

LAMAR STATE COLLEGE OF TECHNOLOGY

hand a complete knowledge of the valuable coal beds from West Virginia to Alabama would have been unimportant prior to the middle of the eighteenth century since the extractable coal was far from settlements, to which it could not be exported profitably even if the demand—which did not arise until more than half a century later—had existed.

The *physiography* or surface configuration of the South is broadly divisible into six provinces: an extensive low-lying Coastal Plain on the east and south; the deep embayment of the lower Mississippi and its tributaries; the elevated plains of the Piedmont Plateau on the east; the Appalachian Mountains; the Cumberland and Alleghany Plateaux on the west; and the slowly rising Prairie Plateau west of the Mississippi embayment.

The total area embraced within the South, as here defined, is 969,237 square miles, equal to one third of continental United States, composed of 945,088 square miles of land surface and 24,149 square miles of water surface.

As a foreword to a description of the physiographic provinces of the South attention may be directed to certain facts regarding the movements of population. In the interval from the settlement of Jamestown to near the middle of the eighteenth century the settlers were located almost exclusively on the Atlantic Coastal Plain. From 1732 to the close of the American Revolution there were slow advances inland on to the Piedmont Plateau, southward from Pennsylvania into the Shenandoah Valley, westward across the mountains from Virginia into Kentucky and from North Carolina into Tennessee, and up the Mississippi Valley. None of the settlements away from tidewater exceeded the size of a frontier hamlet until after the general migration subsequent to the Revolution. The use

of natural resources, other than lumber, skins, and precious metals, was exceedingly limited throughout America until well into the nineteenth century and there was little to stimulate the prospector or to tax the primitive methods of transportation then in vogue.

From these facts, though the records are quite unsatisfactory, one may infer correctly that the knowledge and utilization of the mineral resources by the colonists was limited * to such as are now known to exist in the Coastal Plain and the Mississippi basin.

The mineral resources of the Piedmont area became the subject of exploitation during the first three decades of the nineteenth century. The succeeding decades marked the first systematic study of the geology, soils, and mineral resources of the entire area east of the Mississippi, including the rugged Appalachian area. West of the Mississippi little beyond the knowledge of exploratory surveys was available, except for Missouri, prior to the rapid westward expansion subsequent to 1865.

The *Coastal Plain,* or the whole of the South in the eyes of the colonists, is a broad, almost featureless plain rising gently, at the rate of a few feet per mile, from the swampy shores and estuaries on the coast to the head of navigation, or the "fall line" on the west. The surface is diversified locally along its seaward border by broad estuaries with sinuous shores which add materially to the beauty and accessibility of the inter-estuarine areas. These inlets and bays extend for miles inland, the larger ones in Maryland and Virginia extending back to the "fall line." This western boundary of the Coastal Plain extends southwest-

*Coal was mined in a small way in the Richmond Basin as early as 1750, but the annual output did not exceed a few thousand tons prior to 1800.

erly from Baltimore and Washington on the north, through Richmond, Raleigh, Columbia, and Augusta to Columbus on the Chattahoochee River. From this point the inland boundary of the Coastal Plain sweeps northwestward along the eastern side of the Mississippi embayment to the vicinity of Paducah, and thence southwesterly, on the western side of the bottom-lands, to Little Rock, Fort Worth, Austin, and San Antonio.

This inner margin is usually from 200 to 300 feet above tidewater but may range from less than 100 feet, in Maryland and Delaware, to more than 600 feet, in Mississippi. The surface here is rolling or hilly due to the better definition of the drainage lines. North of the James River the land is chiefly rolling, except on the eastern shores of Maryland and Virginia, but southward from this point there are large areas imperfectly drained and often swampy. Near the coast and along the tidal estuaries are extensive marshes.

The deposits of the Atlantic Coastal Plain have been derived mainly by erosion from the Piedmont Plateau and the more distant Appalachians, while those on the Gulf Coast are mainly reworked glacial material from the upper Mississippi and the comminuted wash from the prairies. The soils are for the most part composed of sand and light sandy loams, with occasional deposits of silts and heavy clays. The heavy clays are found principally near the inner margin of the Coastal Plain. The silts, silty clays, and black calcareous soils upon which the rice and sugar-cane industries of southern Louisiana and Texas are being so extensively developed, have no equivalents in the Atlantic division.*

The mineral deposits of the Coastal Plain include

* Whitney: *Soils of the United States.* U. S. Bureau of Soils, Bulls. 55, 9...

sands, clays, and occasional building stone; marls, greensands, and phosphates; salt and sulphur; oil, gas, and lignite; and iron. Of these iron, marl, and clay were the most extensively worked in the South prior to 1865. The presence of salt in Louisiana and of phosphates in South Carolina was known prior to 1860 but little was done towards their development until after the war. The details regarding the knowledge and exploitation of these deposits may be found under their respective heads elsewhere.

The *Piedmont Plateau,* or the area of development of the British colonists during the greater part of the eighteenth century, includes the upland area lying between the Atlantic Coastal Plain and the Appalachian Mountains. This area extends southward from New York to east-central Alabama widening from a narrow zone north of the Mason and Dixon Line southward to a breadth of a little more than 100 miles in North Carolina which it maintains to the Georgia-Alabama line. The eastern boundary is marked by the sinuous " fall line " already described while the western boundary is less sharply defined by the eastern foothills of the Blue Ridge.

Physiographically it is characterized as a gently rolling to hilly upland formed by a broad rolling plain deeply trenched by an intricate drainage system of small streams and a few major streams like the Potomac, James, Roanoke, Savannah, and Chattahoochee which head along or beyond its western border. Its surface is covered with a residual soil increasing in depth from north to south through which obtrude rock ledges in the streams, valleys, and residual ridges rising above its general level in the broader interstream areas. The altitude varies from 100-300 feet to more than 1000 feet above

sea-level, the general surface sloping gently from its western border to the limits of the Coastal Plain.

Geologically the Piedmont Plateau is composed of a complex series of metamorphosed igneous and sedimentary rocks, now changed to schists and gneisses, intruded by other igneous rocks of later date. The formation of this complex dates back to the early Paleozoic or pre-Cambrian. Among the predominant siliceous and argillaceous masses may be found smaller areas of limestone and marble usually in the valleys of the upland. The metamorphic rocks include gneisses, many varieties of micaceous, chloritic, and hornblendic schists, and slates. Some of the igneous rocks have been completely altered to hydro mica schists, and slates while others still show their original character as granites, diorites, gabbros, basalts, andesites, and rhyolites.

Here and there on this complex rest narrow estuarine deposits of red and gray sandstones and shales with occasional beds of coal, as in the vicinity of Richmond, of much later (Triassic) age. Associated with these later deposits are numerous narrow dikes of diabase.

The mineral deposits of the Piedmont include the coals mentioned above; gold, silver, copper, manganese, and iron; clays, sands, slate, and building stone; bauxite, chromite, tantalium, pyrites, and mineral paints; corundum, garnet, mica, quartz, and feldspar; asbestos and talc; monazite, zircon, precious stones, and many others of minor importance.

The presence of several of these deposits was known prior to the Revolution but none of them except the coal of the Richmond basin and a few deposits of iron were worked for other than local

purposes until the second quarter of the nineteenth century. The historical development of the industries centered about their exploitation is treated more fully elsewhere. Prior to the extensive migrations subsequent to the Revolution the population remained agricultural, and little or no attention was paid to mineral deposits other than coal and iron.

The soils of the southern Piedmont result exclusively from the weathering of the underlying rocks over which they form a mantle of varying thickness dependent upon the character of the underlying rocks, and the temperature and humidity of the enveloping atmosphere. For the most part the soils are rather heavy clays and clayey loams overlying and including fragments or boulders of the underlying parent rocks. They are good for general farming, well-adapted to grass, wheat, corn, and tobacco in Maryland and Virginia; cotton, corn, and wheat in the Carolinas and Georgia. Certain of the more stony soils are good for apples and other orchard crops while some of the lighter soils have proved excellent for canning crops such as sweet corn and tomatoes.

Practically all of the surface was forest-clad at the time of its settlement and much of it has remained in a similar condition to the present time.

The Appalachian Mountains consist of a number of parallel ranges with intervening valleys which trend in a general northeast-northwest direction from the Mason-Dixon line southward into Alabama. The elevation of the ridges varies from 1000 to 2000 feet in the north to their culmination in North Carolina where the higher points attain elevations of between 6000 and 7000 feet.* From

*Mitchell's Peak, the highest point on the eastern half of the continent, is 6711 feet above sea level.

this point the elevation gradually decreases to 1600 feet or less at the Georgia-Alabama line until it approximates that of the inner Coastal Plain in central Alabama. As thus defined this physiographic province includes the Blue Ridge and the Great Valley on its west and extends westward to the Alleghany Plateau, into which the mountains merge geologically.

The rocks of the eastern ranges are chiefly metamorphosed igneous and sedimentary masses which have been strongly compressed and faulted while those of the western portion are more openly folded sedimentaries of Paleozoic age. The folding dies out westward with a transition into the gently tilted blocks of sedimentaries forming the Alleghany and Cumberland Plateaux.

The sedimentary rocks represented are marine to shallow-water deposits laid down in successive strata from Cambrian to Permian time. They contain frequent repetitions of sandstone, shales, and limestones and embrace within their limits the remarkable coal-fields of the Appalachians which extend from Pennsylvania and New York to Tennessee and Alabama.

The mineral deposits of the Appalachians include silver, lead, and zinc; coal, oil, and natural gas; iron, and manganese; limestone, cement rock; glass sands, phosphates, salt; and building stone.

The presence of roving Indians until the end of the eighteenth century, the roughness of the surface rendering general farming impracticable, and the lack of transportation facilities prior to the fifth decade of the last century made this area, in spite of its great mineral wealth, the last to be developed.

To this general statement the Shenandoah Valley and the limestone valleys of southwestern Virginia

and the contiguous portions of Tennessee are, of course, exceptions and the same is true of the region along the Kanawha and the southern bank of the Ohio. It was not, however, until after the war that the extensive operations now witnessed in coal, oil, gas, and iron were inaugurated in the South. The total production of coal in the South in 1860 was less than the annual production of any one of twenty-four of the coal-producing states to-day, while the present annual production of iron ore in Alabama exceeds the total production of the United States in 1870. The deposits of many of these mineral resources were known prior to 1860 but the methods used in their exploitation, especially in the South where interests were chiefly agricultural, were primitive, inefficient, and for the most part unremunerative.

The *area west of the Appalachians,* the Cumberland and Alleghany Plateaux are lower-lying uplands extending to the loessal and bottom-lands of the Mississippi. The surface is rolling, often becoming hilly and rugged and occasionally somewhat mountainous. The major portion of a broad area extending southwesterly from Cincinnati to northern Alabama is characterized by an underlying stratum of limestone which through weathering yields an excellent soil like that of the blue-grass region of Kentucky. The loam and clay areas representing the best of the residual limestone soils of the region were the focal points for the early migrations from North Carolina and Virginia into Tennessee and Kentucky. Their strength and productiveness developed agriculturists in spite of the abundant mineral wealth at many points.

Similar soils are found among the longitudinal valleys of the Appalachians, like the Shenandoah Valley, and their presence was a strong factor in

determining both the trend of migration and the agricultural tendencies of the newcomers.

The *Mississippi embayment* embracing the lower portions of the Mississippi valley represents the area covered by an invasion of the Gulf during the geological ages of the Tertiary and Cenozoic and the bottom lands formed by the silting of the lower Mississippi in part since Glacial times. Their flood plains are broad and the soils when well drained are productive for cotton and truck. The circumstances of this area preclude mineral resources.

Historically this region was early known in a general way but few settlements of any size were made prior to the Revolution. Subsequent to that date and the acquisition of the Louisiana Purchase there was a rapid development especially above the bottom lands, notably at St. Louis.

During pre-Revolutionary times in certain areas of Missouri, Iowa, Illinois, and Wisconsin explorations for minerals were made, companies formed, and much metal was claimed to have been won. The activity of the Indians, the great distance from settlements, the little evidence of old workings, and the meagre size of the most prominent settlements make the validity of large claims improbable. Ingalls gives the gross tonnage of pig lead from the first workings to 1800 as 11,800 tons or about one-ninth of the present annual production of the same area.

The lack of knowledge of the *area west of the Mississippi* away from the drainage lines, and the sparse population of the region prior to 1860 render the physical features of southwestern Missouri, Arkansas, and Oklahoma of little influence on the economic history of the South prior to 1865. A few facts of importance may be gleaned from succeeding sec-

tions dealing with the expansion of knowledge and the exploitation of the natural resources.

Through the early unsuccessful attempts to establish Spanish missions and the various filibustering expeditions at the beginning of the nineteenth century there was acquired more or less knowledge of eastern Texas. The region of the Black Prairie belt became known during the expansion under the Republic and the western part of the state was extensively explored during and subsequent to the Mexican War. Through the explorations of Marcy, Ives and Shumard and the surveys of the Mexican boundary and Pacific railroad routes the entire territory of the state was known prior to 1860, and the frontier had extended westward as far as the Llano Estacado. Little, however, was done to develop the natural resources of the state, beyond the agricultural and grazing activities of the inhabitants, until after the war.

BIBLIOGRAPHY:—Macfarlane, J. R.: *An American Geological Railway Guide* (New York, 1879, 1890); *National Geographic Society Monograph* (New York, Vol. I, 1896); Shaler, N. S.: *The United States of America* (New York, 2 vols., 1894); U. S. Geological Survey: *Reports, Monographs, Bulletins, Professional Papers* and *Mineral Resources.* (Complete bibliographies on North American Geology 1732-1905 may be found in Bulletins Nos. 127 (1732-1891), 188-189 (1892-1900), 301 (1901-1905). Under the respective headings of place or subject, reports issued by National and State surveys or in periodical and private literature may be found as desired. MARYLAND—Clark, W. B. and Mathews, E. B.: *Physical Features of Maryland* (Md. Geol. Surv. Rept. Vol. VI, Baltimore, 1906); Ducatel, J. T. and Alexander, J. H.: *Reports on Maryland* (Annapolis 1834-1840); Mathews, E. B.: *Bibliography and Cartography of Maryland* (Md. Geol. Surv. Rept., Vol. I, 1897); Tyson, Philip T.: *First Report of*—(Annapolis, 1860. 145, 20 pp.) *Second Report of*—(Annapolis, 1862, 92 pp.); Williams, Geo. H. ed. *Maryland: Its Resources, Industries, and Institutions* (Baltimore, 1893); VIRGINIA—Phillips, P. Lee: *Virginia Cartography*—A Bibliographical Description (Smithsonian Misc. Coll. No. 1039, Washington, 1896); Rogers, W. B.: *Geology of the Virginias*—A reprint of Annual Reports and Other Papers (New York, App. 1894); Watson, T. L.: *Mineral Resources of Virginia* (Lynchburg, 1907); Watson, T. L.: *A Bibliography of the Geological, Mineralogical, and Paleontological Literature of the State of Virginia* (Amer. Paleont. Bull. Vol. II, 1897, 109). WEST VIRGINIA—Brown, S. B.: *Bibliography and Cartography*

(West Virginia Geol. Surv., Bull. No. 1, Morgantown, 1901). NORTH CAROLINA—Bruner, T. K., ed.: *North Carolina and Its Resources* (Winston, 1896); Emmons, E.: *Reports on the North Carolina Geological Survey* (1852, 182 pp., 1856, 347 pp., 1858, 314 pp., 1860, 112 pp., 1861, 95 pp.); Olmstead, D.: *Report on the Geology of North Carolina* (Part I, 1824; Part II, 1827). SOUTH CAROLINA—Lieber, O. M.: *Reports on the Survey of South Carolina*—(First, Columbia, 1856, 1858; Second, Columbia, 1858; Third, Columbia, 1859; Fourth, Columbia, 1860); Ruffin, E.: *Agricultural Survey of South Carolina* (Columbia, 1843); Tuomey, M.: *Report on the Geological and Agricultural Survey of South Carolina* (Columbia, 1844), and *Report on the Geology of South Carolina* (Columbia, 1848). GEORGIA—White, G.: *Statistics of Georgia* (Savannah, 1849); Yates, W. S. and McCallie, S. W.: *Reports of the Geological Survey of Georgia* (Atlanta, 1894—). FLORIDA—Sellards, E. H.: *Florida Geological Survey*—First Annual Report (Tallahassee, 1908), Second Annual Report (Tallahassee, 1909). ALABAMA—Lyell, Chas.: *Coal Fields of Alabama* (Geol. Soc. London Quart. Jour. Vol. II, 1846, pp. 278-282); Smith, E. A. and McCalley, H.: *Index to the Mineral Resources of Alabama* (Montgomery, 1904); Tuomey, M.: *First Biennial Report on the Geology of Alabama* (Tuscaloosa, 1858), and *Second Biennial Report on the Geology of Alabama* (Montgomery, 1858). MISSISSIPPI—Crider, A. F.: See Mississippi Geol. Surv. Bull., 1907; Hilgard, E. W.: *Report on the Geology and Agriculture of the State of Mississippi* (Jackson, 1860). LOUISIANA—Harris, G. D. and Veatch, A. C.: *Preliminary Report on the Geology of Louisiana* (Baton Rouge, 1899, in La. State Exp. Sta., Part V, pp. 11-309). TEXAS—Dumble, E. T.: *Geological and Mineralogical Survey of Texas* (1st Report, 1889) and Physical Geography, Geology, and Resources of Texas (In Scarff, *Comp. Hist. of Texas*, Vol. 2, 1898, pp. 421-516). ARKANSAS—Branner, J. C.: *Bibliography of Arkansas Geology* (Geol. Surv. Arkansas Bull. No. I, 1909). MISSOURI—Broadhead, G. C., *et al.*: *Report of Surveys of Missouri* 1855-1871 (Jefferson City, 1893); Keyes, C. R.: *Bibliography of Missouri Geology* (Missouri Geol. Surv. Vol. IX, 1896, pp. 221-523). KENTUCKY—Shaler, N. S.: *A General Account of the Commonwealth of Kentucky* (Cambridge, 1876). TENNESSEE—Killebrew, J. M., and Safford, J. M.: *Introduction to the Resources of Tennessee* (Nashville, 1874); Safford, J. M.: *Geology of Tennessee* (Nashville, 1869).

EDWARD BENNETT MATHEWS,
Professor of Mineralogy, Johns Hopkins University.

IMMIGRATION AND POPULATION OF THE SOUTH TO 1783.

THE South has the honor of having the oldest settlements in the United States. The Spanish occupied St. Augustine in Florida in 1565 and the

English Jamestown in Virginia in 1607. The first settlers of Virginia were Englishmen, and the immigration continued to be largely from this source for the first hundred years. Then for the rest of the colonial period, the large majority of the settlers were Germans and Scotch-Irish, who entered the western part of the state through the Valley of Virginia. There was also an influential French infusion which was felt in the eastern section. In 1618 about fifty Frenchmen from Languedoc came over to teach the settlers how to raise silk and grapes. From 1699 to 1720 about one thousand French Huguenots settled at Williamsburg and at Manikin town. During the American Revolution some Frenchmen of wealth and family, attracted by LaFayette's example, came over. Several thousand Irish prisoners were sent over as servants after the conquest of Ireland, by Cromwell; and there was an Italian element also of educated men, who came to Virginia, through Mr. Jefferson, to teach the people of the state how to raise olives. About the middle of the Eighteenth century many young Scotch merchants immigrated, settling in the small towns of East Virginia, and became moneyed men.

When we consider the character of these immigrants, we find that the first two supplies to Jamestown were largely gentlemen of the fearless stamp of Drake and Hawkins. After that time, for thirty years, came chiefly laboring men and servants, but the hardships to which they were exposed through martial law, Indian attack, and especially climatic diseases, prevented any considerable increase of population. Thousands died the first year after their arrival. In 1642 the population might be stated at 7,500, but in that year a civil war began in England and hundreds of good people of the

middle classes in that country sought refuge in Virginia. In 1649 the population had doubled, being estimated at 15,000. In 1619 twenty negroes were brought to Virginia, and in 1715, not long before the great emigration of the Scotch-Irish, the population was 95,000, of whom 23,000 were negroes, and in 1755 it had increased to 295,000, of whom 120,156 were negroes. Twenty-seven years later the population was 567,614, of whom 270,762 were negroes. In 1790 the total population was 747,610 according to the census of that year.

The great directing factor in the development of Virginia was the culture of tobacco. This brought over the white servants and the negro servants and slaves, and scattered the population in a search for richer and newer lands. The wealth of water courses encouraged scattered settlement and emphasized rural life so that there were few or no towns. It created also a class of very rich men who imitated the English gentry in the manner of living. But the common racial distinction and rural life of the whites tended to counteract the social influence, and in the Eighteenth century made political freedom universal with their color.

Maryland and North Carolina received their first immigrants from Virginia, and always preserved a general likeness to the parent colony. Tobacco held the same important relation to society, producing rural life and preventing the growth of towns of any large size. There was this distinction between these two colonies due to the form of government in great measure. In Maryland the aristocracy was more emphasized, while North Carolina was a colony for the most part of small landholders.

The first settlers in Maryland were English Protestants, who came from Virginia, in 1631, and

established a trading station at Kent Island under Col. William Claiborne, secretary of state for Virginia. Two years later Lord Baltimore sent over twenty gentlemen and about three hundred laborers. Most of the former were Catholics and most of the latter were Protestants. The priests converted many of the Protestant immigrants, but, in 1649, the balance was again restored by the arrival of 1,000 English Protestants from Virginia. Tobacco culture and the offer of a homestead attracted many settlers to Maryland, which became the asylum of many religions, and, in 1660, she was reported as "peopled with 8,000 souls." In 1665 rumor had doubled this allotment, and, in 1667, a clergyman placed the population at 20,000. In 1701, the governor reported a population of 32,000, and the first detailed census, in 1712, showed 46,000, of which the negroes were less than one-fifth. According to the Board of Trade's report, in 1721, the population of Maryland, in 1719, was 55,000 whites and 25,000 blacks. In 1732 the population was estimated to be 96,000; in 1748 it was placed at 130,000; in 1755 at 154,000, of whom 30 per cent. were negroes and mulattoes; in 1761 at 164,000, of whom some 50,000 were blacks. At the outbreak of the War of the Revolution the numbers were probably near 250,000, and at its close, 4,000 more. From this time to the census of 1790, with its total of 319,728, of whom 103,036 were slaves, the increase was a moderate one, though owing to limitation of territory the resulting density of population was unequalled outside of New England.

The first settlers in North Carolina were people who went from Virginia for various reasons—some were debtors, some white freedmen, who saw better chances in a new country, some were Quakers and Baptists who fled from Virginia to escape persecu-

tion, and some were of the best quality, who were on the lookout for better lands. In 1707 there came a large company of Huguenots from France, and, in 1709, a still greater number of Germans immigrated from the Palatinate led by Baron de Graffenreid. After 1730 came the Scotch-Irish and after 1745 many Scotch Highlanders. Population had grown so fast that by the time of the Revolution North Carolina ranked fourth among the thirteen colonies.

When a charter was secured by Clarendon and his associates there may have been 300 families in the Albemarle region, later known as North Carolina. In 1677, there were 1,400 tithables in the district, or about 4,200 people. This number was reduced on account of disturbances by 1694 to 787, indicating a total of about 2,000 settlers. In 1715 the numbers reached about 11,360, of whom 3,750 were blacks. In 1732 the whites were fully 30,000 and the negroes about 6,000, and in 1754 the number was conjectured by Mr. Bancroft to be about 90,000. In 1765 the estimate of Governor Dobbs was 135,000. In 1774 the estimate of Congress was 300,000, but this, like all the estimates of that session was subsequently regarded as too liberal, and probably 260,000 was nearer the truth. The census of 1790 gave the population of North Carolina as 393,751, besides 35,691 classed as "inhabitants" of the territory southwest of the Ohio, hitherto in North Carolina and afterwards the state of Tennessee.

The first settlers of South Carolina, in 1664, were Englishmen from Barbadoes, under Sir John Yeamans, but they did not stay. Some went to North Carolina, and others to Nansemond and Isle of Wight counties in Virginia. Then, in 1670, the Lords Proprietors sent over a colony of Englishmen, who were increased by emigrants from Bar-

badoes and other islands of the West Indies. After 1685 Huguenots came from France in large numbers. Some years later came Germans and then a great many Scotch-Irish, and finally a few Scotch Highlanders. There came also emigrants from Virginia and North Carolina, but by far the greater number of immigrants were wild negroes from Africa, who cultivated rice in the marsh lands of the various rivers. A kind of double aristocracy was produced differing from anything in the other Southern states. There was the race aristocracy of white people founded upon the equality of all white men and the subjection of the negroes, and the social aristocracy, which was centered in the single city of Charleston where the great planters had their residence.

At the founding of Charleston, in 1680, the district contained from 1,000 to 1,200 souls, and two years later the population was twice as great. In 1708 there were 4,000 whites and 5,500 blacks. In 1724 the number of whites was 14,000, and the number of slaves 32,000. In 1749 there were 25,000 whites and 39,000 slaves. In 1765 there were 40,000 whites and 90,000 slaves. In 1773 there were 65,000 whites and 110,000 slaves. At the beginning of the American Revolution the population was not far from 200,000. The British carried off so many negroes during the war that, although for generations previous the blacks had outnumbered the whites so largely, the census of 1790 showed 140,178 whites and 108,895 blacks.

Georgia had its origin in the idea of a brave English soldier, James Oglethorpe, of planting a colony which should serve the English settlements northward as a military bufer against the Spaniards of Florida. In 1733 he came over with a number of insolvent debtors taken from the English prisons.

His company of English settlers were soon re-inforced by Germans and Scotch Highlanders, and many people came from Virginia, North Carolina, and South Carolina to swell the population.

In 1752 the population was about 2,700 whites and 1,700 blacks. In 1760 it was less than 6,000 whites and perhaps half as many blacks; in 1766, there were 10,000 whites and 8,000 blacks; and in 1773 over 18,000 whites and 15,000 blacks. At this rate of increase the total population in 1776 was probably from 45,000 to 50,000, or double the number of seven years before. During the war Georgia suffered a great loss in negroes, and in 1783 her number was below the figures of 1776, but in 1790 the census showed 82,548 total population, of which the whites made two-thirds.

In 1715 Maryland had a population of 50,200, of whom 9,500 were negroes; Virginia 95,000, of whom 23,000 were negroes; North Carolina 11,360, of whom 3,750 were negroes; South Carolina 16,750, of whom 10,500 were negroes; so that the total population was 173,310 compared with 261,450 in the Northern states. In 1754 Maryland had a population of about 154,000, of whom 50,000 were negroes; Virginia 295,000, of whom 120,000 were negroes; North Carolina 90,000, of whom 20,000 were negroes; South Carolina 80,000, of whom about 50,000 were negroes; Georgia about 5,000, of whom 2,000 were negroes; so that the country south of Pennsylvania had a total population of 624,000, of whom 256,000 were negroes. The Northern colonies on the other hand, had a total population of 732,000.

In 1776 the population of the whole Union was about 2,500,000, of which the Southern colonies had about 1,200,000, of whom about 500,000 were slaves. The figures given are not exact but only approximate.

Thus, it is seen, that the Southern population was a product of many nationalities, predominantly English, and representing all stages of society. While very few titled persons came over, the kinsmen of the great men in England, Scotland and Ireland were present by thousands, and they controlled the lower elements, who being the exposed class were especially the victims of climatic diseases. The economic forces of the South were fundamentally rural. The great number of watercourses enabling every planter of means to ship his crops directly from his own plantation, the mild climate and flat lands, free of stone, were favorable to agriculture, and the staple crops—tobacco, rice, indigo and cotton—promoted a dispersion of the population in the search for extended areas of cultivation. The necessity for workmen able to stand heat and malaria was the cause of large importations of negroes from Africa, who proved at their best in tilling the soil and were without much aptitude for mechanical pursuits.

As the towns were small and few, manufacturing could not flourish to any great extent, although the amount of manufactured goods was not as small as has sometimes been represented. There was a considerable manufacture of cotton cloth, used by the slaves and lower classes. Ships of large tonnage were built, and the small craft, which was innumerable, was almost entirely home-made. There were iron factories and fulling mills about the time of the American Revolution.

The political policy of the South in associating with the Northern states in resistance to British taxation seriously affected her economic conditions.

The plan of non-exportation before the American Revolution fell heavily upon the South, as that section produced nearly all of the exports; and being

a community which required access to the markets of the world, the Revolutionary War and the tariff policy afterwards prevalent, were very hurtful to it.

The supreme feature of Southern society was its independence and democracy. The aristocracy which existed, though socially dominant — almost spectacular in some of its aspects and poetically interesting — was after all a mere veneering on the great body politic. In the latter half of the Eighteenth century white servants were comparatively few and democracy was necessitated by the scattered mode of existence and the slavery of the negro race which drew the whites together. By 1783 white servitude had mostly passed away, except in Maryland, and after that time the white man generally, no matter how poor or what his occupation, was addressed as "mister" and treated generally as an equal on public occasions.

BIBLIOGRAPHY.—Andrews, C. M.: *Colonial Self Government* (Vol. V, in Hart's *The American Nation*, New York, 1904); Baird, C. W.: *History of the Huguenot Emigration to America* (2 vols., New York, 1885); Ballagh, James C.: *White Servitude in the Colony of Virginia* (*Johns Hopkins Univ. Studies*, XIII, vi-vii, Baltimore, 1895), and *A History of Slavery in Virginia* (Baltimore, 1902); Bancroft, George: *History of the United States* (6 vols., New York, 1883-85); Bassett, J. S.: *Servitude in North Carolina* (*Johns Hopkins Univ. Studies*, XIV, iv-v, Baltimore, 1896), and *History of Slavery in North Carolina* (*Johns Hopkins Univ. Studies*, XVII, vii-viii, Baltimore, 1899); Brown, Alexander: *First Republic in America* (Boston, 1886); Browne, W. Hand: *Maryland, the History of a Palatinate* (American Commonwealth Series, Boston, 1884); Bruce, P. A.: *Economic History of Virginia in the Seventeenth Century* (2 vols., New York, 1896); Campbell, Charles: *History of the Colony and Dominion of Virginia* (Philadelphia, 1847); Chalmers, George: *Political Annals of the Present United Colonies* (4 vols., London, 1780); Dexter, F. B.: *Estimates of Population in the American Colonies* (Worcester, 1887); Doyle, J. A.: *The English Colonies in America, Virginia, Maryland, and the Carolinas* (New York, 1882); Hawks, F. L.: *History of North Carolina* (2 vols., Fayetteville, N. C., 1857-58); Jones, C. C., Jr.: *The History of Georgia* (2 vols., Boston, 1883); McCrady, E.: *South Carolina under the Proprietary Government* (New York, 1897), and *History of South Carolina under the Royal Government* (New York, 1899); McCormack, E. I.: *White Servitude in Maryland* (*Johns Hopkins Univ. Studies*, XXII, iii-iv, Baltimore, 1904); Scharf, T. J.: *History of Maryland* (3 vols., Baltimore, 1879); Tyler, L. G.: *Cradle of the Republic* (Richmond, 1906), and *England in America* (Vol.

IV, in Hart's *The American Nation, New York*, 1904); Winsor, J.: *Narrative and Critical History of America* (8 vols., Boston and New York, 1889).

LYON G. TYLER,
President of William and Mary College.

THE INDIAN POPULATION OF THE SOUTH.

THE economic development of the Southern states by the early colonists was necessarily closely connected with the character and movements of the Indian tribes. It is fair to state that the aboriginal nations who welcomed the foreigners were sincere in their proffer of friendship; and in spite of avarice, selfishness, and recklessness on the part of many of the earliest explorers and settlers, the natives rendered them important, and indeed indispensable service.

The Powhatan Confederacy, which originally controlled the entire coast from Maryland to South Carolina, occupied at the time of the settlement of Virginia, some eight thousand square miles, and probably numbered as many persons. Theirs was a land of plenty, abounding in deer, wild turkeys, oysters, fish, and water fowl of all kinds; in addition to which the Indians raised a good supply of corn.

The great chief Powhatan had an arbor, or "long house," in each of his towns for his own occupancy, and another hidden deep in the woods for his treasures, such as furs, copper, and pearls. A story is told of his bartering hundreds of bushels of corn to the hungry colonists in exchange for a string of blue beads which he was told were made of a piece of the sky and could only be worn by kings. It is said that Powhatan had twenty sons and eleven daughters;

and through his "best beloved daughter," Pocahontas, who was married to John Rolfe, the blood of the forest "emperor" still runs in the veins of some of the best people in Virginia.

The Cherokees, who occupied Tennessee and the northern and western portions of all the states from Virginia to Mississippi, were estimated in early times at from twelve to fourteen thousand persons. The name "Cherokee" probably means "Cave people." There were seven clans or "mother towns," as follows: Tannassie, Kettooah, Ustenary, Telliquo, Estootowie, Keyowee, and Noeyee. A chief of the Cherokees called Moytoy of Telliquo was made "Emperor" by the English representative, Sir Alexander Cummings, in 1730.

From 1760 until after the Revolution these people suffered a steady decrease, owing largely to smallpox and other diseases introduced by the whites. Upon the discovery of gold in Georgia they were forcibly removed to the Indian Territory in the winter of 1838-39, and lost on that dreadful march of seven hundred miles across the wilderness about one-fourth of their number, 16,000, from cholera, accident, and hardship. They were followed and harassed by a band of organized robbers called "Morrill's thieves." Their improvements and stock, which were considerable, were in many cases a total loss.

The Tuscaroras, or Monacans, about twelve thousand in number, with the Chowans and Nottoways, constituted the southern branch of the Iroquois, who occupied much of the coast up to the first part of the Eighteenth century. The Catawbas and Yamasses were their enemies and neighbors. Then the Cherokees joined with the white settlers in the Carolinas and drove them north, where they finally rejoined their tribesmen, the Iroquois.

The Choctaws, who held the southern half of what is now the state of Mississippi, extending westward into Louisiana and eastward into Alabama, were the leading agriculturists among the tribes. A Choctaw, when asked whether his people were farmers in 1820, replied: "Yes; and in the time of De Soto! We have always cultivated corn, beans, potatoes, and pumpkins. We raised considerable cotton and our people understood the Mexican art of weaving, and could spin and weave our own clothing." Early estimates of the Choctaws place the population at from fifteen to twenty thousand.

The Chickasaws were a brave and war-like people, living in northern Mississippi and western Tennessee and Kentucky, who in 1720 had four principal settlements and probably three or four thousand people. They had an ancient trail, 160 miles long, from the present site of Memphis, Tennessee, to their villages in Mississippi. They began to emigrate westward in 1822—"self-emigration," it was called, in distinction from the forced emigration conducted by government agents.

The Creeks were so named by the English from the numerous streams in their country, which extended to the Gulf coast and even into Florida, the home of the Seminoles. The early estimates give them a population of twenty thousand. Between 1836 and 1840 they occupied fifty towns, speaking six distinct languages: Muscogee, Hitchite, Koasate, Yochi, Natchez, and Shawnee. Their only revolt was the so-called "Creek War" in 1813-14 under the half-breed leader, Weatherford.

The Creeks were an artistic people, especially fond of music and of personal decoration. They had "white towns," which were places of refuge in time of war or other disturbance. The Seminoles of Florida, sometimes called the Southern or "Wandering

Creeks," are a branch of this nation. Any smaller bands who had their hunting-grounds within this region finally disappeared or were absorbed by the tribes herein named.

Although more or less bewildered and harassed by the contending colonists of three European nations, Spain, France, and England, the natives of the south, except the Seminoles, were for the most part the declared and sincere friends of the English, with whom eventually they were entirely concerned. Upon more than one occasion they sustained the starving colonists with their corn and venison, and for upwards of a century the fur trade thrived among them. Their baskets, especially those of the Cherokees, were also an article of barter, prized for their beauty and durability. Having permanent villages, they raised considerable stock, supplying their own beef and pork, and cultivated the soil diligently, far surpassing in this respect the roving tribes of the northwest. They owned thriving orchards of apple and peach, and many of them possessed numerous negro slaves. It is of some interest to note that the Cherokees voluntarily freed their slaves and made them citizens in February, 1863, while the other Indian nations did so after the Emancipation Proclamation, upon demand of the United States government. The freedmen were kindly treated and continued to dwell among them.

By the year 1825 the Cherokees and Creeks had already established a civilized form of government, and one of the first acts of the latter was the legal prohibition of ardent spirits within their boundaries. The Cherokees were the inventors of a syllabic alphabet of eighty characters by means of which their language was promptly reduced to writing. If it had not been for the devastating wars and consequent removals, they would doubtless have pro-

gressed in civilization with even more surprising rapidity than was actually the case. The Indian population increased rapidly prior to the wars of 1812-15.

It is doubtless the fact that white settlement in the South was retarded to some extent by native occupancy, and yet more by the occasional Indian wars; yet each war ending in the subjection of the Indians and in a cession of territory if not in tribal removal further west was naturally followed by a wave of settlement. Of this, however, there are no exact figures available.

It is unfortunate that we have no reliable statistics of the colonial period; in fact, the Government preserved no statistical reports of the various tribes prior to their final removal and settlement in the west. It is well known, however, that these people were thrifty and industrious, as well as intelligent. The post of trader among them was eagerly sought after by the whites, and for a long time one of the most important enterprises of the new country was the fur trade with the Indians.

BIBLIOGRAPHY.—The sources are found in the various contemporary histories and descriptions of the Southern colonies and states, like John Smith's *General History of Virginia;* James Glen's *South Carolina;* Daniel Coxe's *Province of Carolana;* Robert Beverley's *History of Virginia;* A. Hewatt's *South Carolina and Georgia, etc.;* and the Annual *Reports* of the Smithsonian Institution; Bruce, P. A.: *Economic History of Virginia in the Seventeenth Century* (2 vols., New York, 1896); Drake, S. G.: *Indians of North America* (Boston, 1837); Hendren, S. R.: *Government and Religion of the Virginia Indians* (*Johns Hopkins Univ. Studies,* XIII, xi.-xii, Baltimore, 1895); Kercheval, Samuel: *A History of the Valley of Virginia* (Winchester, 1833); Waddell, J. A.: *Annals of Augusta County, Virginia* (Richmond, 1888); Wood, N. B.: *Lives of Famous Indian Chiefs* (Aurora, Ill., 1906); Bureau of American Ethnology, *Handbook of American Indians* (Part I, Washington, 1907).

CHARLES A. EASTMAN,
Author of Indian Boyhood, etc.

INFLUENCE OF BRITISH COLONIAL POLICY UPON THE SOUTH DURING THE COLONIAL PERIOD.

The most conspicuous features of Southern colonial life, though due in origin to natural environment and the exigencies of settlement, are traceable in no small measure to the favoring influence of British policy. Topography, climate, and staple products were the first causes shaping Southern economic development. Maryland, Virginia, and North Carolina, with their great bays and rivers, their wide reaching arable lands adjacent to excellent harbors and extensive waterways, their fertile soil and mild climate leading the colonists to seek the easiest road to wealth, not only became agricultural, but despite opposition based on moral, sanitary, and economic grounds, limited their agricultural activity to the raising of one commodity, tobacco. This staple, easy to raise and to ship, commanded a price in the early Seventeenth century far higher in respect of bulk and cost of production than did wheat and other staple commodities. Efforts of home government and proprietaries alike to persuade the settlers to live in towns and to engage in industry were vain, until after 1700 with the definite adoption of the mercantilist policy by the English authorities native predilections won the day. By 1720 the Privy Council had reversed its former attitude and encouraged what it had formerly discouraged, the raising of tobacco in Maryland and Virginia. It forbade the colonists to apply their labor to other produce or manufacture, even going so far as to reject a Virginia act "for the advancement of manufactures" because it contained a clause contrary to mercantilist principles.

For purposes of export South Carolina was already devoting her attention to rice, and by an elaborate system of bounties was encouraged to take up also the cultivation of indigo and the production of naval stores, chiefly tar. North Carolina also was aided by premiums on tar and pitch. Thus by natural inclination and artificial stimulus the Southern colonies subordinated all arts and crafts to the raising of commodities that would contribute most largely to their material prosperity and could be exchanged for the manufactured goods of the mother country at a reasonable profit. Not even in Charleston, the only important colonial city of the South, did there arise a powerful trading class such as existed in Philadelphia, Newport, and Boston. How far the Southern planter would have developed trade and manufactures, had he been left to himself, is wholly problematical. He had shown no serious inclination to do so in the Seventeenth century when England was not opposed to industrial pursuits in the colonies. The fact remains that nowhere in the South did society enter the manufacturing stage or organize itself into compact communities with solidarity of interests.

Upon a people thus organized British policy made a deep and enduring impression that was not only economical but administrative and social also.

Economically British policy as finally defined harmonized with Southern habits and conditions, and the British government intentionally favored agricultural life in the South. It gave to the planter a monopoly of the English market by imposing heavy duties on foreign tobacco and by forbidding the English farmer to raise tobacco at all. It returned the duties levied on colonial tobacco when reëxported from English ports to the Continent, opened the southern Continental market to the rice of

South Carolina and Georgia, and granted to those same colonies a bounty on all indigo imported directly to England. It passed at least five measures granting bounties on naval stores, timber, and pig iron, and admitted hemp, lumber and pig iron free of duties into England. Except in the case of iron its restrictive acts scarcely affected the Southern colonies and even with iron it is extremely doubtful if Maryland and Virginia, the only iron producing colonies, had they been left to their own inclinations, would have developed any desire to manufacture for themselves. British manufactures were obtained at an easy rate and were always preferred. It was profitable for the Southerner to adapt himself to the mercantilist interests. Thus the benefits were mutual. Raising only raw material, trading directly with the mother country and in largest part in English vessels, and producing none of the manufactured articles that England wished to control at home, the Southern colonists interfered in no material way with England's dominant purpose of utilizing her outlying dependencies for her own upbuilding. That which profited the home country profited the colonists also and the acts of trade and navigation wrought no immediate injury to the economic life of the South. Though efforts were made at times to obtain direct importation of salt from the Continent and to remove tobacco from the list of enumerated commodities and though the tobacco colonies often suffered seriously from the fluctuations in the price of tobacco, complaints were generally confined to the business methods of merchants and factors in England and not to the policy of the British government. Before the Revolution the Southern colonies had no material grievances comparable with those that agitated the North after 1763. They stood to England in a relation-

ship not unlike that of the British West Indies and fitted into England's scheme of empire far more successfully and willingly than did the corn-growing, fishing, and commercial colonies north of Mason and Dixon's line.

In matters of administration a similar condition prevailed. All the Southern colonies, from Maryland to the Floridas, lay within the sphere of England's immediate control and stood on terms of intimate association with the mother country. Eventually all the colonies except Maryland became royal, and even Maryland for twenty-five years was directly managed from London. Under this system governors and councillors were appointed by the Crown; justices and secretaries held their offices by writs or warrants from England; surveyors, comptrollers and collectors reproduced as nearly as possible the custom service of London and the outports; and the vice-admiralty courts, constituted as were those of England, continued in America the historic struggle between royal prerogative and the common law. A large number of colonial officials were on the pay list of the British treasury, and in the case of Georgia after 1752 and of the Floridas from 1763 to 1783 the entire colonial establishment was provided for by act of parliament. The presence in the South of so large a body of British officials, looking to England for their authority and in large part for their pay and sworn to perform their duties, as they were bound to perform them, in the interest of the government at home, developed a political and social atmosphere that was rather British than colonial, and formed a social clique that displayed the manners and temper of a dominant and aristocratic class. Caste distinctions, conventionalized in the Eighteenth century and made more prominent by a constant increase of foreign immi-

grants, indentured servants, and plantation negroes, tended to become conspicuous and permanent.

Upon the social life of the colonists, particularly of the landed classes, British influence acted directly and without mediation. Southern colonial products were carried in the ships of England and the other colonies by way of British ports to Europe, and in return in the same manner manufactured goods were brought in large quantities from abroad to clothe the people on the Southern plantations and to furnish their homes. The presence in London and other British ports of agents and correspondents with whom the Southern planter kept a standing account, a cause unfortunately of complaint as well as of profit, made it easy for the same planter to visit England, to send over his sons to be educated or to be trained as lawyers, and for his daughters to enjoy the society of the great metropolis. All returned ripened by their experiences abroad, bringing back the fashions of the time, adding grace and charm to the manners learned in the older world. Thus equipped, society sought to dominate politics as well as fashion. From Maryland to South Carolina the aristocratic classes guarded by every means in their power the politics of the colony from control by the dwellers in the back country. The social standing of the Anglican Church, both in Virginia and South Carolina, was utilized to strengthen the hold of the aristocratic party on government, while the English parish, the only form of local organization in the South during colonial times, was an ally in influencing local elections.

Thus throughout the entire colonial era the Southern colonies exhibited characteristics that were far from inimical to British colonial interests. In many particulars these characteristics were the same as those of the landowning classes at home.

The ecclesiastical organization was largely Anglican, modes of life, manners, dress, amusements and social relations were those of the English gentry, while in matters of inheritance, land tenure, and legal practice English forms and English law to a large extent prevailed. The life which centred in the governor's court or in the household of the rich planter was English in its exuberance, its scorn of manual labor, and its recognition of sectional and class distinctions, and stood in striking contrast to the upland region where frontier conditions and frontier habits of thought and dress held sway. Two results followed: on one hand economic life in the South became stationary, as must be the case in communities where agricultural conditions are dominant and where the absence of towns and cities and of the competition that results from living in compact social groups renders almost impossible the development of that business genius which is necessary to the material advancement of a people. On the other, the individuality of the Southern system, the knowledge of the outer world frequently obtained by the planter and his children, and the mental acuteness due to the arguments over government arising from the controversies between royal officials and the delegates of the people created men of remarkable personal character and ability. The Southern gentleman, little concerned as he was with the petty politics of village and town, interested in the larger aspects of England's imperial administration, and suffering but rarely from the operation of England's mercantile and commercial policy, was able and willing to take a broad view of political questions and to appeal to the precedents of the past as an argument in favor of the preservation of things as they were. The sympathies of the proprietary classes of the South coincided with

those of intelligent Englishmen of the day more nearly than with those of the Northern colonies, where political ideas were more democratic, social life more compact, and material interests more self-centred and intense.

As far as the Southern colonies were concerned British policy in its economic aspects played but little part in arousing the spirit of revolt. Had no other difficulties intervened trade laws would have been readjusted to meet colonial complaints, for the aim of the British government was to encourage not to restrict colonial industry. But the efforts of the Crown to effect political and administrative unity in the interest of England's expanding empire threatened colonial self-government. Neither in the South nor the North were the colonists willing to suffer curtailment of their freedom of action. Allied to this, the main cause, was a group of subsidiary causes:—the misgovernment of royal officials, the burden of taxation, the iniquitous fee system, and above all the influence of the settlers in the back country. With no social and little economic connection with England, possessed of a strong frontier spirit of independence, and often convinced that tide-water rule was both unwise and unjust, the men of the uplands threw their weight in the scale against England. The sovereignty of England was destroyed, but the marks of British influence remained, and nowhere more deeply or for a longer time than along the coast of the South Atlantic.

Bibliography.—Bassett, J. S.: "The Relation between the Virginia Planter and the London Merchant" (in *Report* American Historical Association, 1901); Beer, G. L.: *The Origins of the British Colonial System*, 1578-1660 (New York, 1909), and *British Colonial Policy*, 1754-1765 (New York, 1907); Bruce, P. A.; *Economic History of Virginia in the Seventeenth Century* (2 vols., New York, 1896); Lord, E. A.: *Industrial Experiments in the British Colonies of North America* (*Johns Hopkins University Studies*, Extra Volume, XVII,

Baltimore, 1898); McCrady, E.: *The History of South Carolina* (Vols. I and II, New York, 1897, 1899); Sioussat, St. George L.; "Virginia and the English Commercial System" (in Report Am. His. Asso., 1905); Sikes, E. W.: *The Transition of North Carolina from a Colony* (*Johns Hopkins University Studies*, XVI, x, xi); Steiner, B. C.: *Western Maryland in the Revolution* (Ibid, XX, i); Wagstaff, H. M.: *State Rights and Parties in North Carolina* (Ibid, XXIV, vii, viii); *Acts of the Privy Council, Colonial* (2 vols., 1613-1720, Hereford, 1908); *Calendar of State Papers, Colonial* (13 vols., 1574-1699, London, 1860-1908).

Charles M. Andrews,
Professor of History, Johns Hopkins University.

LAND.

THE DEVELOPMENT OF A PRODUCTIVE AREA IN THE SETTLEMENT OF THE COLONIAL SOUTH TO 1783.

DURING a period of one hundred and seventy-five years following the settlement of Jamestown, in Virginia, in 1607, the North American colonists were engaged in occupying and exploiting the great Atlantic coastal region comprised between the Appalachian mountains and the sea, an area of approximately 340,000 square miles. The aboriginal inhabitants of this region were, comparatively, few in numbers, mild and peaceful for the most part, given to fishery and tillage of the land and banded in small and weak communities, unlike the strong, fierce and warlike tribes whose chief vocation was the chase in the mountains and on the great Western plains beyond. The occupation of the land was therefore accomplished at no large cost of conflict and mainly through barter—and chicane. The great Appalachian mountain chain at its northeastern extremity approaches closely the sea. The New England colonies were, therefore, confined to a comparatively restricted area. This, moreover, had been subjected to the stupendous glacial action of the great Ice Age. The soil was thin, glaciated, and strewn with coarse rubble drift. Soil and climate alike forbade an extensive agricultural development. The New England colonists, therefore, found their industrial profit in barter for pelts with the Indians beyond the mountain barrier, in the teeming fisheries off the coast, in the timber of the dense forests by which they were surrounded, and in the building and hire of vessels for the general coastwise commerce. Land hold-

ings in the Northeastern colonies, therefore, were small and density of population increased commensurately with its growth. Southward, however, the mountains stand back great and increasing distances from the sea. The Southern colonies possessed a large domain, extending to the southwestern extremity of the great mountain chain, a distance of 1,000 miles, ranging in breadth from fifty to three hundred miles, of flat or gently-rolling land of immense fertility, watered by numerous great rivers and their tributaries and with a coast line of nearly 1,000 miles, deeply indented by numerous bays and estuaries where the sluggish rivers cut their way through sand and mud flats to the sea. The climate was generally mild but of considerable variety. The native forests were mainly of soft-wood trees, speedily killed by a process of " girdling " (learned from the aborigines) and comparatively free from underbrush; clearing of the land for occupation was therefore easy. All the conditions were favorable to a remunerative agriculture and this became, from the outset, the chief, almost the exclusive occupation of the people. A traditional " land-hunger " was readily gratified, and the conditions of land tenure were such as to permit and encourage large individual holdings in fee. The conditions therefore inspired to rapid occupation of land and expansion of settlement.

Thus profiting by the unhappy experiences of earlier settlers on the immediate coast, the colonists at Jamestown established themselves at a point twenty-five miles above the river's mouth and began, almost immediately, the exploitation of the inland region. By 1619 the plantations extended up the James River seventy miles above Jamestown and for from four to six miles from either bank. In 1624 the river's banks had been settled as far up as the

present site of Richmond, and the entire peninsula between the James and the York occupied. By 1663 "the Virginians had spread northward to meet the Maryland colony on the Potomac and southward to the Chowan Peninsula on Albemarle Sound." In 1685, it is said, that "although the population of Virginia did not exceed the number of inhabitants in the single parish of Stepney, London, nevertheless they had acquired ownership in plantations that spread over the same area as England itself." The expansion of other Southern colonies was similarly rapid. By 1732 it was estimated that there were not "1,000 acres within one hundred miles of Charleston in Carolina or within twenty miles of a river or navigable creek which were not already taken possession of."

The methods of exploitation increased expansion. Although the first Jamestown settlers included but few who were skilled in agriculture or disposed to enter upon it as a principal occupation, their consequent misfortunes and an increasing knowledge of the real nature of the new country caused speedy improvement in the fitness, in this particular, of subsequent settlers. At first, and, indeed, for some time after the establishment of the colonies the settlers brought with them or sent back to England for the seeds, the stock, the cattle and the implements with which they were already familiar, and the character and the manner of the agriculture of the colonists were those of the mother country, modified only by the conditions pertaining to an abundance of cheap, fresh land in a sparsely settled region. Wheat, oats, and barley were brought over in 1609-11; horses, sheep and swine in 1609, and dairy cattle in 1611. There were but three indigenous agricultural products of importance which the North American New World presented to the Old—Indian corn, potatoes

and tobacco—and it was many years before the culture of these assumed large proportions. "Forty acres of maize" were planted at Jamestown in 1609, and this crop soon became an important source of the local food supply. Agricultural practices were extremely crude, and, indeed, continued so throughout colonial days. Following the practice of the Indians, the forests were ruthlessly burned off after the trees were killed and the top soil cultivated with the hoe. The hoe was the chief implement of agricultural industry, the ill-formed blade fashioned at the village smithy and the handle a sapling with the bark unremoved. The plow was but little used. The iron plow was not invented until 1797, and that of the colonists was a clumsy, unwieldy and inefficient affair of wood. Maize was planted, Indian-fashion, in scraped-up hills; grain was sown broadcast by hand, cut with a hand scythe when ripe and thrashed on the barn floor with a flail, or in the open field by driving horses over it. Cattle, as a rule, were unhoused. It was believed in the Southern colonies that the housing and milking of cows in the winter would kill them. The value of stable manure was unregarded and its use extremely limited. Indeed the barn was not infrequently removed from place to place to get out of the way of the accumulated manure. There is a tradition that the colonists in Virginia learned from the Indians the possible advantages of fertilizing their corn hills with the fish with which the streams of the region abounded, but it does not appear that this doubtful venture in scientific agriculture was practiced to any large extent. Nor does there seem to have been any general adoption of the practices of green manuring or crop rotation which necessity had begun to impose upon the agriculturists in older lands. Irrigation was practically unknown, as, indeed, in the well-watered

region it was unnecessary, but crude drainage was not uncommon. Intensive agriculture, in fact, in a country of plentiful, cheap, fresh land, was of doubtful economy. Other crops with which the colonists were familiar were introduced from time to time. Thus rye in 1630; beans in 1644; buckwheat in 1650; apples in 1650, and flax, hemp, and hops probably about 1645. Potatoes were cultivated in Virginia on a small scale in 1630.

It was expected that the North American continent —especially the Southern portion—would furnish in addition to the precious metals the tropical and semitropical products which theretofore had been supplied to Europe from the East, and frequent attempts were made from time to time to introduce the culture of such crops as indigo, sugar cane, rice, silk, cotton, etc. These attempts were not successful in the commercial sense expected, but it is probably true that by 1783 sufficient cotton was produced to supplement the deficiencies in wool and flax to supply local demands for textiles, and enough rice to contribute noticeably to the food supply. Tanning materials were to be had in abundance in the trees and shrubs of the inner country and were exported to some considerable extent. The sassafras root, moreover, found a ready market in Europe. The quest for these contributed, in some degree, to the expansion of occupation. The water area of productiveness—in fish, etc.—seems to have been restricted to the broader and lower reaches of the rivers and bays and no records appear of claim to exclusive, individual occupation of such areas for commercial exploitation. The culture of tobacco, which at an early date became the chief commercial crop of all the Southern colonies, was the main incentive to rapid expansion of the productive area. Peculiarly exhaustive of the fertility of the soil, this crop made

continuous demands for fresh lands for its profitable production. Under most favorable conditions it was found profitable to plant tobacco for no more than three years upon the same land, which was then given over to corn and other crops. Using no manures, and with the crude and wasteful agricultural methods accentuated by the employment of slave labor, it was found that the best alluvial lands became exhausted in eight years and those of the inner country in three. This led to continued abandonment (without relinquishment of title) of old, depleted lands for new of virgin fertility. The inevitable evils incident to a " one-crop " system of agriculture were soon manifested and were intensified as the territory was occupied and the acreage of virgin land decreased. These evils, involving soil depletion, ruinous fluctuations in relative values of other commodities with the success or failure of the principal crop, and dependence upon a precarious foreign commerce for other necessary supplies, were recognized and appreciated by the colonists, and many efforts, by legislation and otherwise, were made to remedy them. Gradually a larger proportionate acreage was given to other crops than tobacco. By 1736 food-stuffs and textiles—corn, potatoes, and flax—were produced in quantities not only sufficient to supply home demands but to warrant a limited degree of profitable exportation. Livestock, by 1760, was produced sufficiently to satisfy local demands and wool sufficiently to supply partially such demand. It may be said, in general, that, at the time of the Revolution, a large proportion of the entire area of the established Southern colonies east of the mountains was, in a measure—nominally, if not quite actually—a productive area, producing all that was needed for a self-supporting state in the way of food-stuffs, crude textiles, and timber; lack-

LIBRARY OF
LAMAR STATE COLLEGE OF TECHNOLOGY

ing woefully in manufactures and with a foreign commerce limited particularly to one great export product, tobacco.

BIBLIOGRAPHY.—Brown, W. G.: *The Lower South in American History* (New York, 1902); Burnaby, A.: *Travels in America* (London, 1775); Bruce, P. A.: *Economic History of Virginia in the Seventeenth Century* (2 vols., New York, 1896); DeBow, J. D. B., ed.: *The Industrial Resources, etc., of the Southern and Western States* (4 vols., New Orleans, 1852-53); Drayton, J.: *A View of South Carolina* (Charleston, 1821); Fiske, J.: *Old Virginia and Her Neighbors* (Boston, 1897); Ingle, E.: *Southern Sidelights* (New York, 1896); Jones, C. C., Jr.: *History of Georgia* (Boston, 1883); McCready, E.: *The History of South Carolina* (4 vols., New York, 1897-1903); McMaster, J. B.: *A History of the People of the United States* (6 vols., New York, 1884-1906); Olmstead, F. L.: *A Journey in the Seaboard Slave States* (New York, 1856); Walker, J. G.: *Eighty Years of Progress of the United States* (Washington, 1861); White, G.: *Statistics of the State of Georgia* (Savannah, 1849); U. S. Census *Reports*, 1790-1860.

HENRY CLAY WHITE,
Professor of Chemistry, University of Georgia.

THE EXPANSION OF THE AREA OF CULTIVATION, 1783-1865.

WHEN Independence was achieved in 1783 and the recognized western boundary of the colonies was brought to the Mississippi River, the advanced frontier settlers, who for a number of years had been passing more or less aggressively through the openings in the mountain barriers, now broke through in increasing waves of pioneers and overflowed the fertile plains of the great valleys beyond. On this magnificent theatre was then reënacted the rapid expansive movement characteristic of the colonial South, and in almost identical terms. In 1783 the population of the original Southern colonies, including Maryland, Virginia, the Carolinas, and Georgia, was approximately 1,000,000. By 1860, within the same territorial limits, the number had increased to ap-

proximately 5,000,000. Although the density of population had thus increased five-fold on the whole, nevertheless, for the greater part of the territory the lavish economic conditions of extensive area and sparse population, characteristic of a new land, still prevailed. The productive area was extended in much the same manner as in colonial days. In Virginia, indeed, the conditions and methods changed somewhat as population became more dense, commerce increased, and diversification of industries became more profitable. Agricultural methods were largely and rapidly improved and the productiveness of the cultivated land increased. Even so, however, with slave labor and tobacco still the chief money crop, expanding productiveness was mainly along the old channels of abandonment of old lands for new, made the more readily possible by more general invasion of the forests on the foot-hills and flanks of the mountains. Farther South a new factor had arisen which caused a reënactment of the economic history which had attended the culture of tobacco. The invention of the cotton gin placed beyond question the substantial profit to be made in cotton production in the Southern states. Although not so exhaustive of the land as tobacco, cotton was fully as destructive of fertility by reason of the clean culture it required. Calling for but little skill in its cultivation it was adapted to the prevailing slave labor. The old process of clearing new land and abandoning old marked, therefore, the progress of expansion of a productive area in the lower South. The cotton planter of Georgia, moreover, had one great advantage (if it may be so called) over the colonial tobacco planter of Virginia that encouraged this method of expansion. Whereas the Virginian was dependent upon a foreign and hampered trade, the Georgian enjoyed a free and rapidly growing domestic commerce

which gave him ready and cheap access to food supplies and manufactures and left him free to devote his industry to his staple crop. The census reports and other records from 1790 to 1860 exhibit the remarkable fact that, in the Southern states, although land-holdings increased, of course, with increase of population, the relative proportions of "improved" to "unimproved" lands in such holdings remained practically stationary; that is, about equal proportions of each. It is noted by a very competent observer that agricultural conditions, in this particular, in the South in 1860 were in no wise different from those in 1820.

The up-country, a peculiar factor in the economic development of the South, recognized as exerting an important influence in other phases of its history, does not appear to have modified materially the general mode of expansion of a productive area. The original European settlers in the lower South, their followers and descendants clung somewhat tenaciously to the broad, flat coastal plain, constituting the "low countries," extending back from the sea to the broken and rolling country of metamorphic rocks of the Piedmont, or "foot-hill" region on the eastern border of the mountains. This region was peopled largely by settlers from the northward along lines of settlement parallel to the mountain range. These constituted, as is well known, the bulk of the non-slave holders of the South, and their methods of exploitation were somewhat different from those of the coast. In the extension of their productive area, however, they followed the same general method of continuous abandonment of worn-out lands and their replacement by fresh clearings from the forest.

Bibliography.—Brown, W. G.: *The Lower South in American History* (New York, 1902); Burnaby, A.: *Travels in America* (Lon-

don, 1798); Bruce, P. A.: *Economic History of Virginia in the Seventeenth Century* (2 vols., New York, 1895); DeBow, J. D. B. (ed.): *The Industrial Resources, etc., of the Southern and Western States* (4 vols., New Orleans, 1852-53); Drayton, J.: *A View of South Carolina* (Charleston, 1802); Fiske, J.: *Old Virginia and her Neighbors* (Boston, 1897); Ingle, E.: *Southern Sidelights* (New York, 1896); Jones, C. C., Jr.: *The History of Georgia* (Boston, 1883); McCready, E.: *History of South Carolina* (4 vols., New York, 1897-1903); McMaster, J. B.: *A History of the People of the United States* (6 vols., New York, 1884-1906); Olmstead, F. L.: *A Journey in the Back Country* (London, 1861), and *A Journey in the Seaboard Slave States* (London, 1856); Walker, J. G.: *Eighty Years of Progress in the United States* (Washington, 1861); White, G.: *Statistics of the State of Georgia* (Savannah, 1849); U. S. Census *Reports* 1790-1860; *Proceedings of the Scotch-Irish Society of America* (New York, 1845-60).

HENRY CLAY WHITE,
Professor of Chemistry, University of Georgia.

LAND SYSTEMS OF THE SOUTHERN COLONIES OF ENGLAND AND OF THE SOUTH ATLANTIC STATES.

THE early charters of the King of England proceeded on the principle that he had absolute sovereignty over the whole territory of aboriginal North America as far as it was not occupied by the subjects of some Christian king, the only prerequisites to title being discovery and settlement. The right of the Indians to the soil, though not recognized as permanent, was, nevertheless, considered as entitling them to some form of compensation. The instructions given the Virginia colonists, on their first sailing, warned them to keep on good terms with the natives, and shortly after the landing the island of Jamestown was purchased for some small amount of copper.* This policy of quieting the Indian title was generally pursued in all the English colonies and a departure from it was usually excused as being a

**True Declaration* (Force, *Tracts*, III, No. 1).

war indemnity, which even among present Christian nations is a recognized just means of acquiring territory. Jefferson noted that a very important part of Tidewater Virginia was acquired, not by conquest, but by the process of lawful exchange. Provisions to protect the Indians against the rapacity of private citizens formed no inconsiderable part of colonial legislation.

The first steps tending from communal toward private ownership of land in severalty in the United States were made in Virginia as early as 1613. The Bermuda planters, hitherto held, like the others, in "common servitude" to the London Company, were then given a tenantship-at-will on small tracts of the Company's land at the onerous yearly rent of three barrels of Indian corn and a month's service to the colony.* Some others, who were made tenants on small tracts with only seed corn, and one month for their private work, were, in 1616, allowed eleven months for their maintenance on small rented "farms" and could hire labor.† From 1617 certain corporate rights to land were given to associations of planters, and though a few land grants seem to have been made to individuals by governors before Yeardley, general private ownership was first established by him in 1619. No dividend, except this of lands, was ever made to the shareholding colonists. By this every settler who had come at his own expense before the departure of Sir Thomas Dale, in April, 1616, was entitled to one hundred acres "upon the first division" to be afterwards augmented by another hundred acres, and as much more for the price of every share of stock (£12, 10s.) actually paid by him. Every one imported by the Company within the same period was, after the expiration of his ser-

Colonial Records of Virginia (State Senate Documents, 75).

†Hamor, Ralph, *True Discourse*, 17.

vice, to have one hundred acres; while settlers who came at their own expense, after April, 1616, were to receive fifty acres apiece. Grants of land were sometimes made, in the days of the Company, to large associations of individuals, on condition of their transporting a certain number of immigrants in a given number of years, and large tracts were set aside for the support of the government, religion, and education.

After the dissolution of the Company in 1624, grants of land were made by the governor with the advice of the council. Every emigrant paying his own way over had fifty acres, and he had fifty acres more for every person imported by him. These rights were called "headrights," and were assignable—the purchaser standing in the place of the original transporter. Headrights granted for members of the importer's family, his servants or slaves were a frequent source of large estates. By corruption in the land office they were fraudulently sold, and the lax methods of survey and registry of grants tended to increase holdings, as land was cheap and easily obtained. Thus, and by favoritism of governors, tracts of from 20,000 to 50,000 were accumulated by individuals. Headrights were the common mode of acquiring title for land, except in the Northern Neck of Virginia, where purchase at from 5 to 10 shillings per hundred acres was the rule. The tenure of the lands was by free and common socage and was subject to only two conditions. The land had to be "seated" in three years and there was to be a payment annually of one shilling for every fifty acres.

The steps taken during the existence of the London Company to give validity to a patent of land in the colony were as follows. The applicant presented a petition to the Quarter Court in London. It was referred to a standing committee for examination.

They reported to the court and the final confirmation took place at another general meeting. This confirmation was required in London when the grant had been made by the governor and council in Virginia. After the abolition of the Company, the method of obtaining a patent was much less complicated. The person having a claim to headrights went before the clerk of the court of the county in which he resided, and took an oath that he had imported the number of individuals whose names he presented in his list. The oath and the list were then embodied in a certificate, which bore the seal of the court and the official signature of the clerk, and was entered in the records of the county. The original certificate was taken to Jamestown and filed in the office of the secretary of the colony, whereupon, a patent was issued by this officer. Sometimes, but very rarely, the King and Council in England made direct grants of land in Virginia. In 1651 Charles I gave 2,000 acres in Virginia to Edward Prodger, one of his pages. In 1705, a title to the public lands, by purchase at five shillings for every fifty acres, was permitted.

The first public surveyor in Virginia, and indeed in the United States, was William Claiborne. Not long after the year 1634 when counties were formed, the office of surveyor-general for Virginia was established by the King. This office, with its emoluments, in 1693, was given by its charter to William and Mary College, whose faculty examined and appointed all the county surveyors down to 1818, when the power was taken away by statute.

After 1776 the commonwealth succeeded to the rights of the crown and quit rents were abolished. The process of perfecting a title was not much changed. Unoccupied land was no longer plentiful enough to be offered free to immigrants, but, in 1792,

was sold at the rate of $2.00 for every hundred acres, which, when paid to and receipted for by the state treasurer, entitled the applicant, on delivering the receipt to the auditor, to a certificate. This certificate lodged with the register of the land office, secured a printed warrant duly authorizing the applicant to lay off and survey the land.

The land system of the other Southern colonies resembled in principle that of Virginia, differing from it chiefly in detail. In Maryland, Lord Baltimore's orders contemplated two classes of proprietors. Firstly, there were those who imported a number of adult laborers, and who in return received not less than a thousand acres of land. Those that went out in the first year received for every five men imported two thousand acres at a quit-rent of four hundred pounds of wheat. In the case of those who followed in the next two years, the quit-rent was raised to six hundred pounds of wheat, while the requisite number of laborers was changed to ten. For those that should come later the proportion of land to laborers was retained, but the rent was changed to two pounds sterling in value, to be paid in the produce of the country. These estates, and every individual grant of 2,000 or 3,000 acres were created manors, reproducing English manorial tenures and jurisdiction with the right of holding courts baron and courts leet, though it was not always exercised, so the large grants as the basis of plantations were the chief survivals.*

Secondly, provision was made for small landholders. Each was to receive for the first three years a grant of a hundred acres for himself, another hundred for his wife, if he brought one, and another hundred acres for every servant, and fifty acres for every child under the age of sixteen years. But headrights were manipulated as in Virginia, and grants

*Bozman, *History of Maryland*, II, 658; Kilty, *Landholders' Assistant*, 30, 31, 92.

for services or consideration, amounting from 10,000 to 20,000 acres, and in one case the whole of Charles county, were made to individuals. The quit-rent was fixed at ten pounds of wheat for the first year for each fifty acres, and seventy pounds of wheat each year for the other two years. For those who should come later, the quit-rent was rated at 12 pence for every fifty acres, but the amount allowed for each maid servant, under forty years of age, was placed at fifty acres instead of a hundred as hitherto. Vacant and surplus lands, as in Virginia, and lapsed and escheated lands though not so frequent, as the proprietor was satisfied if he got his rents, were usually absorbed in existing plantations. The English law of inheritance and alienation tended to preserve, as in Virginia, the vast colonial estates by entails and primogeniture.

In the Carolinas each settler before 1690 was granted 100 acres of land for himself and for each man servant brought over for him, and the quit-rent was a penny per acre. In 1694 the quit-rent, was reduced to one shilling per hundred acres. In North Carolina the attempt of the proprietors to limit grants to a mile square was often defeated. Special warrants extending the grant, loose practices in the land office, and exceptional grants of from 36,000 to 100,000 tended to non-settlement or absorption in plantations. In South Carolina, as patents were issued before survey, frequently as much as one-fourth of an original grant was added to it by fees paid to the surveyors or land officials, and much hitherto ungranted land was purchased from the Indians.*

In Georgia, the trustees at first greatly restricted the tenures and by parish-township grants, village and common lands sought a narrow system like New

*Drayton, *South Carolina*, 13. In one case it was attempted to add 1,100 to a tract of but fifty acres by a warrant of survey.

England and Pennsylvania. It was thought unsafe to grant estates in fee, since it might be the means of attracting too many Spaniards and Frenchmen from Florida and Louisiana. Grants were made in tail male and not in fee. The system proved a failure, the towns died and the restrictions kept out settlers. After the authority of the trustees was displaced, in 1752, and Georgia became a royal colony, new patents were substituted, which ran in the name of the King, reconveying the lands in free and common socage upon conditions similar to those in the other Southern colonies. Fee simple grants of 200 acres to each family head, with 50 acres additional for every member, white or black, of the household, were sold at £5 per 100 acres, and the grantees and their assigns were to pay to the crown on March 25 of every year a quit-rent of two shillings for every hundred acres, and annually to clear and cultivate at least five acres in every hundred acres granted.

As to the South in general, several results are apparent:

(1) The influence both of the early land law and land practice was to form and preserve an expansive system of large estates as contrasted with the restricted farm system of the North and of the Southern frontier, and to lay the physical basis of the tidewater plantation system.*

(2) The land system proved one of the best means of promoting immigration by offering early private ownership and liberal grants to settlers as opposed to the more general communal ownership and smaller individual grants in the North. The tidewater section of the Southern states, unlike the North, was a network of peninsulas skirted by rich alluvial bottom lands, producing corn, tobacco, rice, and indigo, but under deadly climatic conditions. The set-

Georgia Historical Society Collections, I, 25, 26, 29, 34; II, 83, 84.

tlements, at first, were upon these water courses, and the mortality was tremendous. The ability of every one to acquire lands was a great encouragement to withstand the ravages of the pestilence. From the beginning liberal promises of dividends were necessary to secure immigrants, and the practice of land-grabbing began as early as 1619, before the value of negroes or the great importance of tobacco were generally realized.*

(3) The land system aided in preventing the growth of towns, and emphasized rural life, scattering and non-settlement. The agricultural conditions of the South were favored by topography, climate, soil, servile laborers, and the land system, which mutually interacted. Their effect was to break up any attempt to concentrate population. The land system, being established on the basis of individuality, and applicable to an indefinite extent of frontier, was probably the most powerful among these factors of decentralization.

(4) The land system fostered the general growth of large estates. In Virginia from 1626-1632 the average area of soil, which was acquired by single patent, did not exceed 100 acres, and the largest amount in any one patent was 1,000 acres. From 1634-1650 the average was about 446 acres, and the largest patent was about 4,000 acres. In the whole course of the next fifty years the average patent was 674 acres. In the interval between 1695 and 1700 there were seven patents for from 5,000 to 10,000 acres, and one for 13,400 acres. In 1705 the legislature limited the size of the patents to 4,000 acres. Nevertheless, there were living in the colony about the middle of the century, men who, like William Byrd and Robert Carter, owned as much as 100,000

*Ballagh, *White Servitude in the Colony of Virginia*, 12n, 15, 19, and note, 86n, 115 and note, 122.

acres of land. In Maryland, as we have seen, manors of large extent were scattered through the colony, leaving a land basis in not uncommon tracts of thousands of acres, sometimes reaching tens of thousands. In the library of the Maryland Historical Society are preserved the rent roll of Queen Anne's manor, and a statement of the sale, in 1767, of 227 manors embracing 100,000 acres. Up to 1715 there was no regularity in the location of tracts by survey, nor in the definition of boundaries in warrants, and large bodies of land could be added to the actual grants.*

In North Carolina the policy of the proprietors was towards comparatively moderate land grants, but they were sufficiently large to agree with the Southern system. It became the rule to limit single grants to 600 or 640 acres. Large estates, however, were by no means uncommon. Baron Christopher de Graffenreid, like the Moravians of Forsythe county, was granted an estate of 100,000 acres, and scattered plantations of 1,000 or several thousand acres were not infrequent.

Entails also prevailed and could be barred only by a private act of the legislature.†

In South Carolina large estates became the rule, especially in the tidewater section. Irregular modes of obtaining grants, as well as of extending them, existed. The land office during colonial days was sometimes closed for several years at a time, and the methods of assignment and conveyance were of the most informal character. Plantations existed whose annual value was even £80,000, while others were from £10,000 to £20,000.‡

In Georgia, after 1752, when the restrictions upon the land tenures were removed, the growth of large

*Ballagh, *White Servitude in the Colony of Virginia*, 116, 117.
†*Ibid.*, 120, 121. ‡*Ibid.*, 118, 119.

estates became rapid. The general method was to take up land on condition of peopling it within a period of years, sometimes as many as twenty. Large tracts of thousands of acres were absorbed into plantations surrounded by bodies of waste and uncultivated lands. In a radius of twenty miles only eight or nine planters might be found, and the attempted Northern township system had broken down in competition before the Southern plantation similar to that of South Carolina.*

These extensive tracts were lands in possession rather than in occupation. They were mostly wild lands and had little value till settled and cultivated which was generally effected by alienation and subdivision.

(5) The Land system promoted individuality and a vehement spirit of political liberty. In spite of large estates there was left a vast quantity of unoccupied lands to furnish adequate homesteads for the freedmen and the humbler elements of society. Servants at the end of their terms received fifty-acre land grants, and land was cheap and the process of obtaining it was very simple. The great landholders were supreme among their negroes, but were careful of giving offense to their less affluent white neighbors, upon whom they depended for political preferment at the polls. Men might choose their companions, but when chance or business threw the rich and the poor together, the democratic spirit of white equality was as strong, if not of the same character, in the South as in the North.

Finally, the land of the South fell into three general divisions; a tidewater belt varying from 100 to 200 miles in breadth, the rolling middle country about 100 miles wide to the mountains, and the hilly and mountainous back country. Not until the Eigh-

*Ballagh, *White Servitude in the Colony of Virginia*, 120.

teenth century did settlement pass beyond the low country and the expansive land system there formed tended, as the value of negroes and staples increased, to extend into the other regions of the states and displace the smaller farm where it existed.

Bibliography.—Ballagh, J. C.: *Introduction to Southern Economic History; The Land System* (in Annual *Report* of the American Historical Association for 1897, Washington, 1898); and *White Servitude in the Colony of Virginia* (Baltimore, 1895); Bassett, J. S.: *Land-holding in Colonial North Carolina* (in *Law Quarterly Review*, April, 1895); Bozman, J. L.: *History of Maryland* (3 vols., Baltimore, 1837); Bruce, P. A.: *Economic History of Virginia in the Seventeenth Century* (2 vols., New York, 1896); Doyle, J. A.: *The English Colonies in America* (New York, 1882); Hawks, F. L.: *History of North Carolina* (2 vols., Fayetteville, 1857-58); Jones, C. C., Jr.: *The History of Georgia* (2 vols., Boston, 1883); Johnson, J. H.: *Old Maryland Manors* (*Johns Hopkins Univ. Studies*, I, vii, Baltimore, 1882); Killy, J.: *The Landholders' Assistant and Land Office Guide* (Baltimore, 1808); Mereness, N. D.: *Maryland as a Proprietary Province* (New York, 1901); McCrady, Edward: *History of South Carolina* (4 vols., New York, 1897-1901); Scharf, T. J.: *History of Maryland* (3 vols., Baltimore, 1879).

Lyon G. Tyler,
President of William and Mary College.

LATIN LAND LAWS AND LAND SYSTEMS IN THE SOUTH.

Probably there is no more fixed basis for human improvement than the private ownership of land. In early historic times, as in America under the Indians, the tribe or clan held the title, while the individual had the right of possession. But the Europeans who settled America brought with them many of their existing institutions, and in particular their land law. This was to become modified by the new conditions which surrounded the colonists, but the basis remained European.

The Southwest has been the meeting-place of three

civilizations. The Spaniards advanced northwardly from Mexico and northwestwardly from Cuba until the whole Gulf coast was claimed and mapped into Spanish provinces. It so happened, however, that the centre of this district, the vast Mississippi Valley, was almost unknown to Spain, and in the Seventeenth century became French under the name of Louisiana. This broke apart the Spanish domains, but by the events of history the whole coast again became Spanish a century later. Nevertheless, the groundwork of the lower Mississippi Valley was French, while Florida and Texas remained Spanish. The greater growth of the English colonies on the Atlantic not only carried them across into the Mississippi Valley, but in course of time overwhelmed the Latin inhabitants on the Gulf coast. Except in lower Louisiana this advancing tide swept away Latin and brought Anglo-Saxon institutions.

Louisiana and Arkansas.—The present state of Louisiana comprises a fraction only of the vast French colony of that name. It is fully entitled to the old name, however, because the later colonization centred on the lower Mississippi, and the French institutions have been the most lasting there. These days antedated the Code Napoleon and the metric system. The chief lineal measure was the *toise* of six French feet; and the French foot, strange to say, was about 8 per cent. longer than the English—being 12.78933 English inches. The prevailing square measure was the arpent, somewhat less than an acre in content. These measures appear almost universally in the older land papers.

The tenure of colonial times was practically *franc aleu*, corresponding closely to the English allodial or fee simple. Law's Company did much in the way of granting concessions, some of great extent. These lands faced the water—either river, bayou, or lake—

and extended back two or three times the frontage. During the first period of Louisiana the royal government made grants through the local governor. Law's Company followed the same policy through its council of directors, and during the royal rule again the governor exercised this power. The French intendant had less to do with land grants than with funds. There being no taxes on lands, the fiscal policy did not extend to them. The French law, which governed old Louisiana, was the *Coutume de Paris,* modified by subsequent regulations, like the *Code Noir.* The *Coutume* provided for the grant of lands in *seigneurie.* In the time of Law's Company there were *seigneuries* established on the Mississippi below Bayou Manchac, and some traces of this tenure survived. They never had, however, the many features peculiar to France. For instance, the banalities of mill and the like were absent. The theory of the *seigneurie* was holding from a superior lord on the obligation of rendering him military aid in war time. There was plenty of warfare, but it was against the Indians and was carried on by the central government by means of soldiers sent from France. Military tenure, therefore, was out of date in Louisiana.

The town lots were generally about sixty French feet front by one hundred and twenty feet deep, giving space for a little home, built near the street, and having its garden, containing always flowers as well as vegetables, in the rear. In later times the flowers and vines were immediately behind the house, sometimes within a kind of court. There were not often separate outlots for gardens, nor was there much need of commons for pasturage. The settlements were small, and the cattle had unlimited range in the neighborhood of the little towns and villages. The net result was the creation of a few towns and of

long "coasts," as they were sometimes called, or adjoining plantations, mainly on the water front. The interior was not generally occupied.

While the tenure was different, a map of the French settlements about Mobile Bay or the Mississippi River would show oblong grants not unlike those along the Saint Lawrence in Canada. Settlements in the country were generally near each other, along the sea, river or bayou. There was no regular survey in advance, but, after application was made, the tract desired was surveyed and overlapping prevented as far as possible. This resulted often, however, in spaces between the grants, and these were finally divided between the plantations. The country grants were of various sizes, perhaps generally ten or twenty arpents front by double or treble in depth. There was no settled rule as to depth on account of the frequency of interior bayous. Under Law's Company the rural grants were large, many running up to a league square, 7,056 arpents or more. The main crop was at first indigo, and this, like the sugar cane after it, required extensive lands. The Creoles did not establish small homes in clearings off in the woods, like the British settlers to the east. The *Coureurs,* or hunters, were a class to themselves. They lived in the woods rather than in houses, and such homes as they had were from alliances with the Indian women.

When the Spaniards came they made little change. For a while even, French remained the official language. The population was essentially French, but there was little immigration and small occasion for new concessions, except when later the fear of American occupation led here as elsewhere to grants, often to officials. After the Louisiana Purchase, the United States took as the fixed date in Louisiana titles the Treaty of Ildefonso, Oct. 1, 1800, by which

Spain ceded the country to France. All subsequent Spanish grants, except those not over a mile square made to *bona fide* settlers, were by act of March 26, 1804, declared to be null and void *ab initio*. Further legislation was found necessary the next year, when two districts were created, and commissioners appointed to investigate the report on land claims, and a Federal surveyor authorized. These acts were several times modified to suit conditions which arose. Donations were authorized to meet meritorious cases when titles were technically defective, and gradually all claims were settled favorably or adversely.

The Americans made little change except in governmental institutions. The Louisianians themselves, when they came to draw a new code, were the innovators; for Martin and the others base their labors more upon the new Code Napoleon than upon the old customary law. An interesting question arose in American times as to new land made by the Mississippi in front of New Orleans. It is called the Batture Case and was decided in accordance with civil law principles.

To this day the civil law has a hold in Louisiana that is found nowhere in America except in Canada. This is shown, for instance, as to deeds, which are not *inter partes,* but in the nature of judicial proceedings before a notary, the originals being kept by him and copies delivered to those in interest. A notary's office has always been a kind of sub-record office.

What is now the state of Arkansas was formerly a part of old Louisiana. Originally it threatened to be a bone of contention between the Spaniards and the French, but the Spanish can hardly be said to have influenced any part of it. The greatest French grant was that to John Law himself. He attempted to settle Germans upon this concession on the River

Arkansas, but his misfortunes came before much was accomplished. The grant lives rather in history than in fact.

Missouri.—Missouri was really the upper part of old Louisiana west of the Mississippi River, and was governed by much the same laws. In a sense it was older than the Louisiana settlements, for what the French called the Illinois was colonized from Canada, and was always semi-independent. As a wheat and corn district it had different needs and interests. The centre of the district was Ft. Chartres on the east side of the river not far from Kaskaskia. On the west side there were such little towns as Ste. Genevieve, St. Charles, and St. Ferdinand, which had town lots and adjacent concessions similar to those down the river, although lead mines on the Meramec brought about somewhat different conditions. The town of St. Louis was not settled until after the French government had abandoned the country east of the Mississippi. It nestled on the sloping bank of the Mississippi, with lots and squares following the Gulf coast models, and presented also the additional feature of outlots and fields adjacent to the town.

As peculiar to the Mississippi River district it may be noted that generally there was no survey, and claims rested on possession. Furthermore, rural life was more in evidence than elsewhere. Even in St. Louis the town lots were one hundred and twenty feet front instead of sixty, and outlots of forty to eighty arpents were common in this district.

There was also the unusual fact of new settlements under the Spanish, as at New Madrid, where town lots were one or two arpents in size, large enough to do away with the necessity for outlots. There were many concessions made by the Spanish or recognized by them, of hundreds, sometimes thou-

sands of arpents, but the American commissioners so far as possible cut down the larger claims to a league square. Such limitation became a settled practice in the Southwest under the United States, especially when there was a question of donation to take the place of an incomplete grant.

Alabama and Mississippi.—The original seat of French colonization was about the Mobile waters, and Mobile was the first capital of Louisiana. What has just been said of the *Coutume de Paris* and of land grants, therefore, applies with double force to this district. This part of the colony, however, from the Mississippi to the Chattahoochee became British in 1780 and thence on under the name of West Florida had a separate development. The British made little change in titles as they found them, except to grant new ones on their own terms. As a result, British and French grants lined Mobile Bay and to some extent the Gulf coast west to the Pearl River, while many extended up the Tombigbee River, especially on the west side, and some few on the lower Alabama. The British were much more systematic in land grants than either the French before or the Spaniards after them, but on the Spanish capture of Mobile almost all the records were removed to England. The proceedings of the Council of West Florida have only lately been re-found in London.

A British ordinance of Nov. 1, 1765, authorized the Council to grant lands in the proportion of 100 acres to every head of family, with 50 acres additional for every one connected with the family, white or black. Larger grants could be made when the grantees were in condition to cultivate the land, upon certain small annual quit rents, such as a half penny per acre payable after the first two years at each feast of St. Michael. Liberal grants were also authorized to reduced officers, military or naval, such as 5,000 acres

to a field officer, 3,000 to a captain, 2,000 to a subaltern, 200 to a non-commissioned officer, and 60 acres to a private. Many of these were not cultivated according to the terms of the grants, and some were not occupied at all. The Spaniards, accordingly, disregarded many of the British grants, and issued concessions *de novo*. Under the British, the Council had the right to grant lands. Under the Spaniards, who succeeded, the intendant was vested with this power. Morales, while intendant, granted a great many of the existing concessions, but occasionally, as when the intendancy was closed on account of the death of an assessor, the local commandant made grants on the condition that proper papers should be secured when the proper office was again open. In point of fact very little more was done, and there are many instances in which the United States afterwards recognized these informal grants.

Around Pensacola the Spaniards respected the old British plan of having a "garden lot" in the suburbs for each owner of a town place. In fact, this was almost a Spanish institution and is found elsewhere in the Spanish colonies. In the old French districts little change was made, for the people remained French, and only the official class were Spaniards. Outlots or garden lots do not appear to any great extent outside of Florida (except in Missouri), and there was as before little need of special regulations for commons or pastures. After the Treaty of Ildefonso in 1800 the Spanish occupants, and particularly officials like Eslava, became very anxious about their future. The impression was rife that lands would be more valuable if the Americans came, and Spaniards and American adventurers alike acquired titles. One half of Mobile was bought by an American doctor from the Spanish interpreter, and other tracts in the vicinity changed hands not much

later. Indeed, to some extent land grants and speculation prevailed all over West Florida, and the entries from Spain did not cease even after the purchase of Louisiana from France in 1803.

The situation was complicated by the fact that the United States while steadily claiming that this district to the Perdido was a part of Louisiana, took no steps to occupy it and left it in the *de facto* possession of Spain. Spain never conceded that the territory east of the Pearl River was a part of Louisiana, and kept on granting lands as the true owner. The Americans finally cut the knot by occupying the country during the war of 1812. They annexed it to Mississippi Territory, and in fact admitted into the Union the states of Alabama and Mississippi as extending to the Gulf, and all without any treaty or understanding with Spain. The result was that the United States could not admit that there was an international question to be solved. The plan of the executive department of the United States was, as in Louisiana, to claim that every grant after the treaty of Ildefonso in 1800 was void, and the judicial branch of the government felt compelled to concur in the action of the executive.

There was for a while great uncertainty of titles, especially when British claims were set up. Congress found it necessary to legislate a number of times for Louisiana. Commissioner Crawford, under the act of April 25, 1812, and the register and receiver under that of March 3, 1819, were diligent in reporting on the validity of land claims, and their work was confirmed by an act of May 8, 1822. There were, moreover, many private acts settling titles in the Southwest, and indeed throughout the whole West, both before and after that year.

Mississippi was also a part of the old Louisiana, but, except on the seacoast, about Natchez, and, for a

short time, up the Yazoo, it was sparsely settled. In these places the French rules obtained and somewhat influenced development. These districts also, like Mobile and Pensacola, were a part of British West Florida, but their connection was purely political. The settlers were so few that land titles were of little consequence. There were village grants rather than rural, for the people preferred to live within touch of each other.

Natchez and the district farther north were occupied by the Americans and became a part of Mississippi Territory in 1798, but for a short while the coast, being below the demarcation line of 31°, was separated from it. This remained in West Florida and was claimed by the revolutionary state of that name in 1810; but this American Poland was promptly partitioned, the Territory of Orleans receiving the part west of the Pearl River, and Mississippi Territory acquiring that to the east. Land offices were established for the districts east and west of that river. Had there been extensive settlements there would have been great confusion of titles; but under the circumstances there was little difficulty. The United States promptly extended the land system derived from Grayson's act of 1785 to Mississippi Territory and then to Orleans Territory, and the old Creole claims, except on the coast, soon disappeared.

Florida.—Turning now from the districts originally French to those originally Spanish we find Florida earlier connected with the United States than was Texas, for it was to the Southeast, and was more needed to round off the American frontier. Florida, however, had few colonists. St. Augustine for a century and a half after 1565 was the only Spanish settlement worthy of the name. The *Adelantados* occupied themselves rather with explora-

tion and subjection of the natives than with establishing settled conditions among the colonists. St. Augustine and later Pensacola were rather forts than foci of colonization. They scarcely amounted to factories for trade, and such agriculture as was practiced, especially about St. Augustine, was by the *padres* and the Indians whom they were civilizing.

The Spanish system left very little in the way of permanent result. Practically so few Spaniards remained in Florida after the treaty of Paris, that the English had a free hand as to lands.

The English during their short occupancy of what they named East Florida acquired by treaties certain definite territory from the Indians and granted out land according to English tenures. When the Spaniards succeeded them these titles to a large extent were confiscated and the lands regranted in tracts sometimes of hundreds of arpents to suit the new governors. During the second Spanish occupation of Florida, Pensacola as well as Mobile were bases of a considerable Indian trade. The great house of Panton, Leslie & Company, afterwards called John Forbes & Company, made up of Scotchmen now become good Catholics and canny on the subject of lands, acquired, by treaties with the Indians, large land tracts. Those at the mouth of the Apalachicola played a considerable part in the United States tribunals after the American acquisition of Florida. The Spanish authorities did not pursue the policy of acquiring lands by treaty, because, unlike the British, they practically held the Indians to be subjects, but there were few Indians in Florida, except the Seminoles in the interior, and there were few Spaniards also. St. Augustine and Pensacola were always small. The town lots were under the guns of a Spanish fort, and the early titles were largely those of friars and Indian dependents,

and were possessory. Land ownership really began with the British. The existing Pensacola, for instance, was laid out by a British engineer, whose map still survives as the basis of titles.

But all around Pensacola waters we find land grants of say 20 arpents front by a depth of double the front, much as in Louisiana, dating principally from British and Spanish lines, and after the American purchase they were similarly dealt with.

Texas.—While Florida was Spanish, it was a kind of over-sea settlement; Texas, on the contrary, was a direct extension northwardly of the institutions and influences centering in the City of Mexico. The Rio Grande was not a boundary, but a domestic or internal river, and the district of Los Tejas was merely the northern frontier of the province of New Spain. The only differences between Texas and what afterwards came to be known as Mexico, were that Texas was far away and therefore ill-governed, and that it soon became subject to influences from the young republic to the north. The settlements in Texas were few. There was *entrada y conquista* in abundance but little colonization.

Mexico of course had many fertile districts, but one of the principal industries was that of cattle raising, and particularly was this true of the plains of Texas. The industry required extensive lands and the *vaqueria* controlled often thousands of acres. The Texas system was based on the Mexican division of the lands into *labors* of one hundred and seventy-seven acres, and the Mexican *vara,* a measure equivalent to 33⅓ inches.

Before the Central American revolutions of the twenties, Spain had adjusted her troubles with the United States by the cession of Florida, and Americans looked beyond Louisiana and Florida to the possibilities of Texas. In 1820 Moses Austin, originally

of New England but then of Missouri, made arrangements with the Spanish governor of Texas to bring 300 families to settle in the northern part of the province. After the Mexican revolt from Spain and the death of Austin, the power and duties of this first *empresario* descended to a son, Stephen F. Austin, who, in 1821, brought out the first immigrants and gradually established a large colony.

Political events moved rapidly. In 1824 a new Federal constitution created the state of Coahuila and Texas, and this, the most northern state of the Confederacy, from its capital of Saltillo issued many laws, and of these, Decree No. 16 of March 24, 1825, embraced a detailed scheme of colonization.

Under this Austin made other contracts with the new state and brought out colonists. It was really the beginning of the *empresario* system, for there were soon a number of others. It was not seigneural, for it was not military. The main principle was the cession of a tract of land, which the *empresario* was to partition out on his own terms among the colonists which he might bring.

The Americans gradually came to outnumber the Spaniards. The *entrada* was now from the north and it was to result in a real *conquista* also; for there came another revolution, which was successful, and Texas became a member of the United States. The new state, however, unlike the others, retained the public lands within its limits.

The old Mexican plan had been similar to that in Florida and Louisiana, and indeed not unlike that of Virginia, in permitting a settler to select his own tract of such form as he desired. The new state of Texas changed the system so as to make surveys before sale, and adopted a system of sections not unlike that of the United States Land Office. Grants to railroads, on military warrants, and to actual set-

tlers were liberal, but led often to absentee ownership, and engrossment in large estates.

We see, therefore, about the Gulf of Mexico the conflict of three civilizations—the Spanish, French, and British. Each had its own institutions and land tenures, and each of these survived into the succeeding régime. Then the all-pervasive American—the Briton made over by new environment—expanded over the mountains, carrying his civilization with him. He has practically absorbed the old inhabitants, and all but blotted out the Latin institutions, but has himself been modified in the process. The foundation of the more ancient titles is often French or Spanish, according to locality, but in general these have become a matter of historical, almost of archæological interest. Tenures, like everything else in the South, have become American. Only Louisiana now shows any marked difference from the other states.

A modification, which, however, was as much climatic as racial, is found in the fact that even the Federal land system did not secure small holdings in the South, as it did in the North. It seems to be a necessity of sub-tropical farming to use large tracts of land. The planting is rather extensive than intensive, for the plants themselves require more space than those of a colder climate, and the system of labor, based generally on some variety of servitude, seems to go with this class of products. A curious result, therefore, was that when the American brought his system of six hundred and forty acre sections and his quarter sections, it met the old custom of large grants of hundreds, sometimes thousands of acres, and the new comer found sufficient inducement to modify his own holdings to conform to the native conditions as he found them. Instead of the small homesteads of the North, we accordingly

have large plantations, and the main difference between American and Latin times is that the plantations become vastly more numerous and extend far up into the river country which previously had been left in undisturbed possession of the Indians. The new blood had come but land conditions were not greatly changed.

Bibliography.—Ballagh, J. C.: *Southern Economic History: Tariff and Public Land* (in American Historical Association *Report* for 1898, p. 221); Blackmar, F. W.: *Spanish Institutions in the Southwest* (Baltimore, 1888); Donaldson, Thomas: *The Public Domain* (Washington, 1894, 3d ed.); *Laws, Treaties, Proclamations, etc.* (Washington, 1828); *Public Land Laws* (2 vols., Washington, 1838); White, Jos. M.: *New Recopilacion* (2 vols., Philadelphia, 1839); *American State Papers, Public Lands* (Vols. I-VI, Washington, 1834); *U. S. Statutes at Large* (Vols. I-VII); *Opinions of Attorneys-General* (Vols. I-VI); *Reports* of Supreme Court of Alabama (Minor, Stewart, Stewart & Porter, Porter); Alabama *Reports* (particularly prior to the Civil War); *Reports* of Supreme Court of Mississippi (Walker, Howard, Smedes & Marshall); Mississippi *Reports* (particularly prior to the Civil War); *Reports* of Supreme Court of Florida (particularly prior to Civil War); *Reports* of Supreme Court of Louisiana (Martin, Louisiana, Robinson, and Louisiana Annual, particularly prior to Civil War); *Reports* of Supreme Court of Missouri (particularly prior to Civil War); *Reports* of Supreme Court of Arkansas (particularly prior to Civil War); *Reports* of the U. S. Supreme Court (Cranch, Wheaton, Peters, and Howard). See also the authorities cited under historical sketches of the States in THE SOUTH IN THE BUILDING OF THE NATION.

Peter J. Hamilton,
Author of Colonization of the South, etc.

THE PUBLIC LAND SYSTEMS OF THE STATE AND FEDERAL GOVERNMENTS IN THE SOUTH.

The close of the Revolutionary War found the land question one of vital interest to the newly independent states. Sectional divergences were, in this respect, not so strongly marked as in later years: the problem was rather one of land-possessing states against those which had no lands. North Carolina,

for example, which had a western territory but little commerce, looked askance at Rhode Island, which had commerce and no lands. While the complicating issues were many,—Indian relations, diplomacy, representation in Congress, the impost and land taxes, the right of Congress to regulate trade,—the state-rights conflict over the public lands was at this stage primarily a financial one. The states were seeking ways and means to pay their debts to their soldiers and to the United States; and those states with claims to western territory seemed to enjoy an economic advantage.

In making to the United States those cessions which posterity has so warmly approved, the land-owning states were careful to guard their own interests. Massachusetts retained Maine to exploit; Virginia kept not only the lands in Kentucky with jurisdiction over that district, but also the possession of a large territory,—the Virginia Military District,—north of the Ohio; North Carolina, having copied the action of Congress and of Virginia by making a military reservation in her western territory, issued land grants which it was far beyond the capacity of this reservation to supply, and stipulated in her act of cession that *all* such grants must be satisfied. This, as it turned out, used up so much of the land in Tennessee that it was not worth the while of the Federal government to open a land office in that territory when it was ceded. Georgia delayed her cession, and heaped up difficulties for later adjustment, when the Yazoo affairs should finally be compromised.

When, upon the adoption of the Federal constitution, the states surrendered to the Federal government the power to levy customs taxes and gave up the right to tax exports, and when later the Federal government assumed the state debts, the difficulty

was in part removed, and for a while the financial side of the land question was less a cause of strife between the states. To secure an income from this source was, indeed, the effort of the Federal government and of each of these states which had lands to sell. But it was not until a later period, when states had been carved out of the public domain, that there arose between these states which contained within their borders public lands, the ownership of which belonged to the United States, and the old states without lands a new conflict not unlike that of the Confederation period.

One element in the problem, inherited from colonial times, has been almost continuous in its persistence, though at certain periods it rose to fever heat. Speculation in public lands may be said to have attended the birth of the public domain; and, though changed in form, to have remained a permanent characteristic of land sales.

The story of the creation of the public domain by the land cessions of the individual states, and of its marvelous increase through war and purchase, must here be omitted, and attention must be confined to the organization of the public lands and particularly to the methods by which they have been transferred to private owners. A glance at the Land Office map of the United States at once presents to the eye one of the most characteristic features,—the system of rectilinear surveys. Whether Roman or American in origin* it is well known that the main outlines of the plan of the system go back to the report of Jefferson's committee of 1784, but its exact authorship has been disputed. It has escaped general notice that in the same year, within two months after the presentation of this plan, the responsibility for it

*See Ballagh, *Southern Economic History: Tariff and Public Lands*, 238, and note 1.

was claimed by Hugh Williamson, a delegate to Congress from North Carolina.* Whatever the authorship, this system of rectilinear surveys, with its concomitant feature of survey *before* location, was diametrically opposed to the colonial practice of the South, where in Maryland, Virginia, and the Carolinas the old English system of metes and bounds prevailed, and from these states was carried over into Kentucky and Tennessee.† The latter states, with the great area of Texas,‡ were not organized upon the Federal basis, the lands were not sold through Federal land offices, and, although the rectilinear system under state administration was not unknown, the domination of the older systems was unshaken. When to this is added the additional fact that the lower South was full of private grants, emanating from British, French, and Spanish sources, one easily understands that in the South and Southwest as a whole the lands sold at Federal land-offices and on the Federal plan§ exerted far less effect on settlement and economic development than in the Northwest.‖ This was the more true, because the Federal system was unfavorable to the tendency to larger accumulation of land which marked the planting South.

Next to the system of survey, the method of sale was the most important problem of the public land policy. Between 1796 and 1820 the United States went through the sorrowful experience of sales upon a credit basis. In the evil results,—speculation, forfeiture, extension of time, and the creation of a large

---

**State Records of North Carolina*, XVII, 81 and following.

†For colonial and early state practice, see article "The Land Systems of the Southern Colonies of England and of the South Atlantic States," and Ballagh, *Introduction to Southern Economic History—The Land System.*

‡For an outline of the policy of Texas land-granting, see *The South in the Building of the Nation*, III, 433–437.

§The first Federal land-offices in the South were located at St. Stephens (1803), and Washington (1803), both at that time in the Mississippi Territory.

‖Ballagh, J. C., *Southern Economic History: Tariff and Public Lands*, 251.

class of public debtors,—the South suffered its full share, as this was one of the periods of most rapid expansion, when Mississippi and Alabama were being settled. During the same time, Kentucky and Tennessee had lands to sell; and these states fared no better from the adoption of the credit basis in their systems. In the later developments of this problem of selling the lands there were further interesting parallels between state and national experiences. When, in 1820, the Federal government returned to the plan of cash payments for the public lands and at the same time took the first step in the reduction of the minimum price per acre, there was already heard the cry of the "occupant,"—the squatter who had settled upon the land without a full legal title, and who now demanded that he should have the right of preëmption or that he should be able to buy at a low price the poorer kinds of land which, at the opening of the land-office, had failed to be sold. Here the influence of the looser system of the old South made itself strongly felt. Kentucky and Tennessee were both considerate of the occupant:* the former state indeed having passed, in favor of her "occupying claimants," laws which the Supreme Court of the United States, in the case of Green *v.* Biddle, declared subversive of the compact between Kentucky and Virginia, and therefore unconstitutional. This wrung from Kentucky a strong state-rights protest, in reply to which it is interesting to find McDuffie, of South Carolina, upholding the authority of the national judiciary. Tennessee, on the other hand, had been the early home of Thomas Hart Benton, who became the great advocate of the West in its demand for cheap lands, preëmption, and graduated prices. In Tennessee, the last mentioned plan,—that of selling the poorer

*See article, "The State Finances of Kentucky."

lands at prices gradually decreasing with the passing of fixed periods of time,—had been put into effect in 1823; but all Benton's efforts could not bring about the adoption of this plan by Congress, until 1854.

As time passed, the ramifications of the public land problem became wide-reaching, involving the tariff, internal improvements, and slavery. Into these wider relations it is here impossible to enter.* The heart of the matter, however, may be stated concisely:—it was a conflict between the idea of using the lands for revenue and the idea of rapidly settling the domain of the United States. During the course of the controversy the sectional attitude shifted. In the early part of our national history the South expressed the idea of rapid settlement, and the North looked to a more conservative policy. In this period the South and the West were in closer relation. Later when it appeared that the institution of slavery could not be profitably carried into the northwest, the North captured the West and, giving up the idea of revenue, sought rapidly to extend the frontier westward through the most liberal concessions to settlers, a policy which reached its culmination in the homestead legislation, so bitterly fought over in the decade before the war, and carried out in the act of 1862.

The Southern name most closely connected with the homestead legislation was that of Andrew Johnson; but, in the preceding generation another Tennesseean, David Crockett, had fought hard for a similar disposition of lands in Tennessee. The mention of these two names, enforces the thought which one induces from a study of the whole problem,—that it was the West, not the South,—the frontier, not the

*See Ballagh, *op. cit.*, and Sanborn, J. B.: *Some Political Aspects of Homestead Legislation.*

old communities of the typical slavery economy,—to which the question of the public lands as we now know them was of vital interest. As the frontier in the South moved westward, the influence of the Federal system was not strong enough to resist the pressure of other forces which constantly tended towards and finally succeeded in assimilating by far the greater part of the South, as it was in 1860, to the customs and characteristics of the older section: while the West as a whole in spite of the best efforts of the Southern leaders cast in its lot with that part of the country in which the influence of the Federal land system had been turned to the policy of free lands.

Bibliography.—Ballagh, J. C.: *Southern Economic History: Tariff and Public Lands* (Amer. Hist. Assn. *Report* 1898, 221-263); Donaldson, T.: *The Public Domain* (Public Land Commission, Washington, 1881); Emerick, C. F.: *The Credit System and the Public Domain* (Nashville, 1899); Ford, W. C.: *Public Lands of the United States* (in Lalor, J. J.: *Cyclopaedia of Political Science, Political Economy, and of the Political History of the United States*, 460-479, Chicago, 1884); Sanborn, J. B.: *Congressional Grants of Land in Aid of Railroads* (Madison, 1899); and *Some Political Aspects of Homestead Legislation* (in *American Historical Review*, VI, 19-37, New York, 1901); Sato, S.: *History of the Land Question in the United States* (Baltimore, 1886); Sioussat, St. George L.: *Some Phases of Tennessee Politics in the Jackson Period* (in *American Historical Review*, XIV, 51-59, New York, 1908); Sioussat, St. George L.: *The North Carolina Cession of 1784 in Its Federal Aspects* (Miss. Valley Hist. Society *Proceedings*, Vol. II, 1910).

St. George Leakin Sioussat,
Professor of History and Economics, University of the South.

THE PLANTATION AND FARM SYSTEMS IN SOUTHERN AGRICULTURE.

The one great industry of the old South was agriculture; to this all others were subservient or tributary. And agriculturists were divided into two great classes, the planters and the farmers. The

former were the tobacco growers of the Chesapeake Bay region, with a small colony of allies in central Kentucky, the rice and cotton planters of the Carolinas and the lower South whose field of operations had expanded by 1860 to Western Arkansas, and the sugar producers of the Mississippi delta. The farmers made up the bulk of the Southern population; they lived in the Valley of Virginia, middle and western North Carolina, north Georgia and Alabama, east Tennessee, Kentucky, and West Virginia; and their products were cereals, tobacco, cotton, and livestock. But farmers also dwelt along the ridges of the plantation areas and even in the sandy "pine barrens" between the plantation regions and the larger farmer areas. In fact nine-tenths of the South's landowners at any period of her history were small proprietors.

The plantations, usually fronted along the rivers of both the upper and the lower South, and these rivers were the lines of communication and outlets to the markets of the North or of Europe; the farmers on the "thinner" lands between the river bottoms and of the hill country about the falls of the rivers were in close relations with the planters, and marketed their crops on the wharves of their wealthier neighbors and bought their supplies either from the few stores in the low country or from the planters who "ordered" through their factors from Europe.

The farmers of the back country, that is, the Piedmont region down to Augusta, Georgia, and the Valley of Virginia and the Cumberland Valley to Knoxville, Tennessee, looked to Baltimore or Philadelphia as their markets, and their surplus, either livestock or the simpler hand manufactures, was, before the era of railroads, laboriously carried thither over the rough back country highways. The farmers of Kentucky, middle Tennessee, upper Georgia and Ala-

bama were dependent upon the Mississippi and its tributaries for an outlet to the world.

We have, therefore, two Souths before the Revolution made, about 1850, by the railways: The older, planter sections which cared little what happened to the farmers, and the latter, a farmers' area, which surrounded and included the great Appalachian mountain system, whose leaders never ceased trying to tax the planters and their negroes in order to build good roads through the mountains or to connect the up-country with tidewater by means of canals. The legislatures of the various states were the arenas for the endless debates between the sections on the subjects of taxation and internal improvements.*

But the great interior was constantly receiving recruits from the planter sections, either because of the pressure of the great plantations with their complete slave-labor systems, or because of the exhaustion of the lands of the inter-river ridges where farmers of the low country dwelt. Besides the native population of the up-country increased very rapidly from decade to decade. So that before 1800 in the older South, and before 1830 in the lower South, the farmers were in the majority in all the states, while in Kentucky and Tennessee a similar alignment of interests as between East and West had been brought about. Yet the older or plantation groups, everywhere retained the control of the political power mainly by refusing to assent to the creation of new counties in the farmer region,† and the retention of political power by the minority in each state was mainly for economic reasons. It is clear that this economic isolation of the two great classes of agriculturists led to bitter feelings, but there was no real

*See especially *Debates* of the Virginia and North Carolina constitutional conventions of 1829–30 and 1835 respectively.

†Jefferson's *Writings* (Ford), Vol. X. Letters to Kercheval and others; Ambler, *Sectionalism in Virginia;* Schafer, *Sectionalism in South Carolina.*

economic competition or rivalry because of the sharp divergence of methods and products.

The planter owned on the average some thousand acres of land, worked fifty to a hundred slaves, and maintained a social and political position not unlike that of the English esquire before the changes wrought by the industrial revolution of the Nineteenth century. His house was always the best in the community, his table was a favorite resort for a host of friends and his horn called together the hounds of the whole countryside. This position of preëminence gave him, almost without the seeking on his part, a place on the county court bench, occasionally a seat in the legislature; and when a member of Congress was to be chosen his class was expected to furnish the candidates. The farmer on the other hand cultivated fifty or a hundred acres; rarely owned a few slaves, and maintained a very simple domestic establishment—a small and poorly-furnished house, a host of children, no servants and one or two hounds which allowed him to join the chase with his social superior, the planter, or enabled him to make up a neighborhood party if it were a back country community. The farmer voted, but seldom held office, except in the purely farmer districts; he expected the planter to take care of the state and nation.

However, the social and economic ambition of the farmer class, where the lands were good, was always to emulate the plantation. The farmer who lived in the neighborhood of the planters sought with might and main to become a planter with negro slaves, a mansion house, carriages and thoroughbred horses; and the farmer who emigrated to the up-country or to Kentucky endeavored in the new country to become a planter wherever this was possible, as, for example, in the upper Virginia valley, and in the blue grass counties of Kentucky. Consequently the

farmers did not try seriously after 1815 to do away with slavery; they feared the free negro in the community. As a result of this imitation of the planter cult the hill country became to a considerable degree a slavery or planter section even before the invention of the cotton gin. The rapid development of the cotton industry after 1810 only hastened, south of Virginia, the growth of the planter area while in Virginia the effect of the spread of the planters was to encourage the spread of slavery in the up-country as much because of the growing market for slaves as because tobacco culture steadily expanded over the farmer region. The building of the James River canal which brought many up-country counties into touch with Richmond, and the famous Valley turnpike, which greatly improved the connection of the mountain farmers with Maryland and Pennsylvania cities, hastened the spread of the tobacco industry and the planter ideals westward to Abingdon and Wytheville.

In South Carolina the Pee Dee canal* which connected much of the farmer area with Charleston had early in the Nineteenth century the same effect. But the rapid growth of the short staple cotton industry was responsible for the spread of the planter régime over most of the fertile hill country of South Carolina, Georgia, Alabama, Mississippi, middle Tennessee, northern Louisiana, and lower Texas. This invasion of the farmer area by the planters was made permanent by the coming of the steam railways in the forties and fifties. Still the farmer, though a cotton grower in the main, did not lose his place. Frequently he gave up his homestead to the great planter and moved westward to seek cheaper lands and become a planter, more frequently he shifted his position to the less fertile strips bordering on the

*Phillips, U. B.: *Transportation in the Eastern Cotton Belt.*

great cotton belt or even penetrated the mountains to the West or northwest or the "pine barrens" to the East or southeast where he became, in the vernacular of the time, a "poor white." Hundreds of thousands of farmers, under the pressure of plantation systems, emigrated to the region north of the Ohio or northwest of the Mississippi, there to build new farmer states for the nation.

The steady growth of the staple industries of the South caused the price of negro slaves to rise from decade to decade until in the fifties it was almost impossible for the farmer to become a planter, especially now that the planters had gained possession of all the best tobacco and cotton lands, held the strategic sections of the country, and built the railroads through their own neighborhoods. The farmer, especially in the lower South, began to produce grain and other supplies for the planter class, though on a small scale, since the railways which connected the middle West with the lower South were completed just at the time this change was taking place, and the local farmer failed to compete successfully with those of Indiana and Illinois. The great planters had gained possession of the country, and they were able to direct the law making, the local improvements and the management of all the affairs of life; they were, though never in numbers more than a tenth of the population, in fact monopolists into whose hands both local and state governments had fallen.

However, there was not a feeling of hostility between the groups of economic producers except as to taxes for internal improvements, for the only way in which the farmer could break the power of the monopolist was by the abolition of slavery; but this would release from strict control an enormous mass of semi-hostile negroes who would be both unman-

ageable and dangerous to the small farmers. The planter's "labor" therefore held the two naturally antagonistic classes of society together. Meanwhile the planters realized the situation of the farmer class and sought from 1854 till 1860 to cheapen the price of slaves by opening the South to the foreign slave traffic, and to furnish fresh lands to ambitious farmers by widening the area of the planting interest, that is, by annexing new cotton and sugar lands or by removing, though Federal legislation, the obstacles to the spread of slavery in the west and northwest.

So completely did the two classes understand one another that both, except in east Tennessee and western Virginia, voted the same way in the elections of 1860 and 1861 in the political crises of those years. In the lower South the farmer voted in many districts "solidly" for secession, whereas the planter frequently voted against that movement, while in Virginia and North Carolina this was not the case. The old connection with Pennsylvania and Maryland was still unbroken, and the farmer and planter of the upper South were less closely allied than in Alabama and Mississippi.

When the war actually began the farmers volunteered quite as readily as the planters, and fought just as bravely in the great battles of 1863 and 1864; though the two classes were conscious of the very great differences which separated them, here again the fear of the free negro operated as a stimulus to coöperation. Besides, the war and the consequent blockade reduced the importance of the cotton and tobacco interests and magnified the vocation of the farmer; both planter and farmer turned, necessarily, attention to the production of cereals and cattle and stock. Perhaps the one measure of the Confederate Congress and government which reminded the two classes most effectively of the differences between

them was the exemption from military service of all planters who owned twenty or more slaves, and it was this fact which from 1863 to the end of the period tended to arouse hostility between the planter and the farmer, and which was also responsible for the growing army of deserters—mainly up-country farmers—who were not unwilling at last to risk their chances with a large free negro population, or who at any rate preferred peace to a war in which they were to do the fighting.

Bibliography.—Ambler, C. H.: *Sectionalism in Virginia* 1770 *to* 1861 (Chicago, 1910); Boyd, William K.; *William W. Holden* (in *Publications* of Trinity College Historical Society, Durham, N. C., 1899); Dodd, William E.: *Life of Jefferson Davis* (Philadelphia, 1907); Fleming, W. L.: *Civil War and Reconstruction in Alabama* (New York, 1905); Ford, P. L.: *The Writings of Thomas Jefferson* (10 vols., New York, 1893-1899); Moore, J. W.: *History of North Carolina* (Vol. II, Raleigh, 1900); Phelan, James: *History of Tennessee* (Boston, 1888); Phillips, U. B.: "Georgia and States Rights" (Am. Hist. Asso. *Reports*, 1901, Vol. II), *Transportation in the Eastern Cotton Belt* (New York, 1906), and *A Documentary History of American Industrial Society: Plantation and Frontier* (2 vols., Cleveland, 1910); Rhodes, J. F.: *History of the United States from the Compromise of 1850* (Vols. I and II, New York, 1906); Semple, Ellen Churchill: *American History and Its Geographic Conditions* (Boston, 1903); Schaper, William A.: "Sectionalism and Representation in South Carolina" (Am. Hist. Asso. *Reports*, 1900, Vol. I); Shaler, N. S.: *History of Kentucky: A Pioneer Commonwealth* (Boston, 1886); *Proceedings and Debates of the Virginia State Convention of 1829-30* (Richmond, Va., 1830); *Ibid.* for North Carolina (Raleigh, 1835).

William E. Dodd,
Professor of History, University of Chicago.

IMPROVEMENT IN PLANTATION AND FARM PRODUCTION.

The agricultural methods of the early American farmer were patterned largely after those obtaining in England. Until 1760 these were extremely crude. Indeed, it was not until the middle of the Eighteenth century that individual holdings of land began to be

enclosed, and fallowing, rotation of crops, and general manuring began to be employed. Arable land was occupied in common field or "run-rig," and the livestock of each township grazed in common. Beginning with 1760, and especially in the period 1784 to 1815, remarkable and practically revolutionary improvements in agricultural practice were made. Blakewell's establishment, by cross-breeding, of an improved breed of sheep and the development of short-horn cattle by the Colling brothers gave a tremendous impetus to the livestock industry and led to rapid and general introduction of the practices of manuring, rotation, and green-cropping. The invention and improvement of the iron plow and of the threshing machine and the use of the steam engine for power were important factors in the agricultural improvement. Books on agriculture began to be written, periodicals devoted to the industry were established and numerous agricultural societies were organized. The Southern leaders in the American Revolution were aware of this activity in general agricultural improvement and conscious of its importance. Washington and Jefferson in particular, were zealous in efforts to introduce similar improvements in the agricultural practice of the new nation and set the example in the management of their own estates. An American agricultural society (of which Jefferson and Franklin were leading members) was organized in Philadelphia in 1790. The large Southern planters, especially in Virginia and North Carolina, were quick to follow the lead of these distinguished counsellors. By 1805 considerable numbers of improved breeds of sheep and cattle had been imported into Virginia and were slowly distributed Southward. With increased attention to livestock came the logical expansion of improvements in general agricultural practice, such as in-

closed lands, diversification of crops, manuring, rotation, green-cropping, and the use of improved machinery. Washington foresaw the peculiar adaptability of the mule to the conditions of Southern agriculture, and probably the first "Jacks" imported into America were the celebrated pair presented to him by the King of Spain at the solicitation of Lafayette. Horses and oxen were the main work animals of the South, however, until after 1832, when the number of mules increased rapidly, chiefly because of the counsels of Henry Clay who, in that year, himself imported the first blooded Catalonian "Jack" into Kentucky. The adoption of the mule—an animal admirably suited to the climatic and labor conditions—as the general-work animal was an important step in the progress of Southern agriculture.

Ground bones (the first fertilizer, other than stable manure, used) began to be used in England in 1815; they were so used in Virginia in 1817. Peruvian guano was discovered and introduced into England in 1841. It was brought to Virginia in 1845, and was used in Georgia in 1846. From that time until 1860 the Southern States of America furnished the chief market for this great stimulant manure. Bones treated with acid "according to the English practice" were used in Virginia in 1845 and in Georgia in 1850. There is abundant evidence that, from shortly after the invention of the cotton gin in 1793 the value of cotton seed as a fertilizer was recognized by the cotton planter, although its use seems to have been restricted mainly to the more fertile "patches" devoted to food crops and garden produce. A State Agricultural Society was organized in Virginia in 1852, and in Georgia in 1854, and the *American Farmer*, a weekly periodical devoted to agriculture, was founded in Baltimore in 1835. In 1854 Dr. Wm. Terrell of Hancock county, Georgia, endowed a chair

of agricultural chemistry in the State University, the first considerable contribution to agricultural education made in America. These instances illustrate the intelligent interest in agricultural improvement manifested by the leading Southern planters. Indeed, it was said, in 1850, that "the best examples of the application of science, economically, to agriculture can be found in Virginia," and this was true, to somewhat less extent, in all the Southern states. These "applications" included thorough drainage and deep plowing, diversification and rotation, and the best practices of English farmers. It is also said, however, by the same observer, that "the generally followed system of agriculture is the worst possible." This was undoubtedly true. The large and wealthy planters—the slaveholders—were, numerically, an inconsiderable proportion of the white population. At no time, up to 1860, were the slaveholders a large per cent. of the white population of the South, although the slaves were, on the average, about one-third of the total population. It is estimated that, in 1850, less than one-fifth of the white population of the South was possessed of much more than one-half of the total wealth of the community. The small farmers, landholders or tenants, who constituted the great bulk of the white population continued to employ primitive and ineffective methods, and their economic condition was deplorable. As late as 1856, for example, the plow was practically unknown in many parts of South Carolina, and the soil was tilled with the crude hoe of the colonial period. The slave-holding planter was not without troubles of his own. Slave labor was generally conceded to be inefficient and unsuited to anything but the crudest manual operations, and the cultivation of the great staple crops, cotton, rice, sugar and tobacco. The proportion of unproductive slaves was very

large. On the great cotton and sugar plantations the number of actual workers was not more than one-half the total slaves, and on the older estates, where none were bought or sold, the number was not more than one-third of the whole. Hired white labor was comparatively little known in the lower South, and in Virginia was unusual, to be had only in the occasional stress of harvest. The slave was an unwilling and an unintelligent machine. Under these conditions it was generally found most economic to purchase from abroad the bulk of the food stuffs and domestic supplies and to devote home energies to the raising of the great, readily marketable staples, despite a full recognition of the evils of a "one-crop" system of agriculture. Rapid increase in slaves and crop demands for new land necessitated rapid extension of a fresh cultivatable area, by clearing the remaining forests or acquiring plantations in the rich alluvial valley of the Mississippi, to be placed in charge of agents or "overseers." Transportation facilities, under the circumstances, were necessarily of the crudest. Good roads, in the enormous and sparsely settled territory, were impracticable to build or maintain. Although one of the first railroads built in America was laid from Augusta, Georgia, to Charleston, South Carolina, the railroad mileage in the South previous to 1860 was totally inadequate to the transportation demands. Ox carts and mule teams laboriously carried the produce of the plantations over wretched dirt roads to market at the river towns and seaports. But few attempts were made in the South to reclaim land by drainage—a notable instance was the reclamation of 400 acres of the Dismal Swamp by Wallace in 1845. While, therefore, the large land holders of the South were thoroughly well-informed of the improvements elsewhere in agricultural practice

and applied these, with rare intelligence, on their own estates so far as practicable, general adoption, under the circumstances, was impossible. In skill and wisdom in wresting immediate profit from existing conditions, the Southern planters were unexcelled by any men any where at any time. "American Beauties" of the most resplendent type, were the product of their high intelligence and peculiar conditions; but the attendant stunting of the general flora of the region was appalling.

Bibliography.—Brown, W. G.: *The Lower South in American History* (New York, 1902); DeBow, J. D. B. (ed.): *The Industrial Resources of the Southern and Western States* (4 vols., New Orleans, 1852-53); Fiske, John: *Old Virginia and Her Neighbors* (Boston, 1897); Ingle, E.: *Southern Sidelights* (New York, 1896); Jones, C. C., Jr., *The History of Georgia* (Boston, 1883); Lyell, Sir Charles, second: *Visit to the United States* (New York, 1849); McCall, H.: *History of Georgia* (Savannah, 1816); McMaster, J. B.: *A History of the People of the United States* (6 vols., New York, 1884-1906); Olmstead, F. L.: A *Journey in the Seaboard Slave States* (London, 1856); *A Journey in the Back Country* (London, 1861); Phillips, U. B.: *Documentary History of American Industrial Society* (Vols. I and II, New York, 1909); Smith, G. S.: *Story of Georgia* (Macon, 1900); Stevens, W. B.: *A History of Georgia* (Vol. I, New York, 1847; Vol. II, Philadelphia, 1859); White, G.: *Statistics of the State of Georgia* (Savannah, 1849), and *Historical Collections* (New York, 1856); various numbers of the *Johns Hopkins University Studies;* United States Census *Reports*, 1790-1860; firsthand information given to the writer by men of the time.

Henry Clay White,
Professor of Chemistry, University of Georgia.

LABOR.

THE DEVELOPMENT OF LABOR SYSTEMS IN THE COLONIAL SOUTH.

THE organization of labor in North America in forms distinct and derivative from typically free labor, free both as to contract and mobility, first occurred in colonial Virginia. It was partly an adoption from past English experience, partly a development from the situation of an over-sea colony with respect to the motherland and from peculiar local conditions in the colony itself. Spain and France had much the same problem to meet as England in providing a stable labor supply for far distant colonies, and developed, particularly so in the case of France, systems of non-free labor combined with colonial immigration strikingly similar to those developed by Englishmen in Virginia and in the other mainland, and in the island, colonies of England.

Three chief forms of labor were successively employed in the colonial and ante-bellum South; free contract labor, servitude, and slavery, each of which was for a longer or shorted period characteristic of the labor system of the time, although the other forms were temporarily co-existent though not co-extensive with the chief one. The historical development was from the first-named form to the last, proceeding thus practically as well as logically from the simplest and most independent to the most complex and dependent form of organization, a point which was reached in the South generally, exclusive of Georgia, in the last half of the Seventeenth century. Here labor organization remained static for over a century and a half before any widespread tendency showed itself to reverse the process and descend

from this form of organization, supreme as respected the efficiency of economic control and direction and certainty of supply, through the intermediate steps of servitude and apprenticeship again to free contract labor. This transition showed signs of beginning in the last quarter of the Eighteenth century in the growth of conditional and progressive manumissions of slaves and in schemes of emancipation such as were put forward by Jefferson in 1779 and by St. George Tucker in 1796. These proposed the emancipation of the "after-born" slaves through a period of servitude and apprenticeship varying from eighteen to twenty-eight years. Between 1820 and 1832 this tendency was checked, and these notions were effectively eliminated from the South under the influence of the great demand for slave labor in the opening Southwest and of the irritation produced by the increasing power of the outside anti-slavery and abolition propaganda. To the South it was an attack upon her most important economic and domestic institution.

The first stage of labor development in Virginia and Maryland was from theoretically free labor to a system of indentured labor whose constituency was termed, in legal and common phraseology, "Christian servants," "white servants," "indented servants," though others than those of the Christian faith,—such as Moors, Mohammedans, and Jews,—or than those of the white race,—such as negroes and Indians,—were included in the classification, as were "convicts" and "redemptioners" as well.

Some free contract laborers, serving for wages, were taken with the earliest immigrants to these colonies, but in the effort to subdue nature and establish a colony most of the colonists were contract laborers-on-the-shares, more under official or military than self direction.

In the case of early Virginia the so-called "Adventurers of the Person" or "Planters" who went as colonists—as distinguished from the "Adventurers of the Purse," the money-subscribing stay-at-home stockholders of the Virginia Company of London—were theoretically free laborers who had contracted, in view of a prospective share in the dividends of land and trading profits of this commercial company, to serve it for a number of years with no additional return beyond maintenance during the term. The system of communal labor together with communal ownership, maintenance, and trade that was established for five years by royal instructions was essentially* continued by the Company's practice, after 1609, of seven-year contracts. And the few specifically hired laborers that existed were either rapidly discarded from the colony or absorbed in what came to be known and detested as "that general and common servitude," which remained, with slight modifications in 1613 and 1616-17, till Governor Yeardley came, in 1619, with a proclamation of freedom to most of the "ancient planters." These "planters," therefore, were actually members of the Virginia Company who were promised by it, for their service during a term of years, their maintenance, or their transportation and maintenance, at the Company's expense, besides a share in any division of land and profits made to shareholders. They held "bills of adventure" for the "adventure" of their persons as well as for any money subscriptions of £12 10s. to the joint stock of the Company, which enabled them after the charters of 1609 and 1612 to vote in the councils of the Company, and otherwise act as any other stockholders, should they happen to be in England. Yet they were practically,

*Five-year contracts were probably made by the colonists of 1607 and the "supplies" to 1609. See Brown, A., *Genesis of the United States* I, 68, 71, 72, 228, 229; *Colonial Records of Virginia*, 81; Force, *Tracts* I, 24, 28 ("Nova Britannia").

during a large part of the first twelve years of Virginia colonization, held as involuntary and forced laborers beyond their contract terms, and were in a semi-servile condition with essentially no self-direction as far as their labor was concerned. Promises of the Company—such as those of the advertising "broadside" of 1609 that solicited as settlers "workmen of whatever craft they may be—men as well as women, who have any occupation," offering them the cost of transportation, "houses—vegetable gardens and orchards and also food and clothing" at the Company's expense, besides "a share of the division of land" —were from the poor financial condition of the Company impossible of complete fulfillment.*

In a few cases a slight modification was made from this "common servitude." In 1613 some tenants-at-will were placed on small farms of the Company's land on condition of self-maintenance and rendering a month's service to the colony each year, while certain other tenants gave eleven months out of the twelve to the public service. By 1616 nearly one-third of the colonists had been advanced to this status of rendering but thirty-one days labor a year, at their convenience, to the public and were granted the privilege of hiring servants from the colony. These servant laborers were imported by the Company under contract, and were in part agrarian,—such as those employed by Dale on a tract of public land called the "common garden" and the surplus hired to the "farmers" for a price of two-and-a-half barrels of corn and their maintenance per year,—while others were skilled workmen,—such as the carpenters and smiths who served the colony in general and had free time and land allowed them for self-maintenance. The remainder of the colonists re-

*Brown, *Ibid.*, I, 248, 252; *Virginia Company Records* I, 4, 64, 181.

ceived support from the Company and were under its complete direction as to the labor function.

Beyond the few gentlemen, who absorbed the offices, and the personal servants, artificers, seamen, and soldiers working as free laborers for wages, colony servants, with little distinction, were, after 1610, worked under commanders or overseers, in semi-military squads and companies, in building and palisading towns; and proved, under the management of Dale, the salvation of this English colonizing experiment.

A new modification, penal servitude, developed from the punishments under this military régime, was extended under the arbitrary exactions of the "rapacious" Samuel Argoll. A few exceptional cases of enfranchisement from a condition the colonists termed "no way better than slavery" were bought by "extraordinary payment," but not until March, 1617, when a three-year contract made by Dale with men who "built Charles City and Hundred" had expired, did these men who had now served the colony nine or ten years obtain freedom. According to the perhaps exaggerated complaints of a number of colonists, persons of wealth and family who had also invested their money in the colony were held in practical penal servitude for seven or eight years at "as hard service and labors as the basest fellow that was brought out of Newgate."* Such servitude as developed, therefore, as a punishment for offences committed in the colony, as well as that of the convicts transported from England, was absorbed in the growing institution of indentured servitude, which by 1619 had been worked out as a labor immigration agency by the Company, and by the several societies and individual planters who

*Winder Mss. I, 30, 47-52; Ms. Records of the Virginia Company, III, 168, 179, 180, 235.

had followed the Company's example after 1616. The cost of transportation and maintenance stood as the wage to the laborer for the uncertain services he had contracted to render for a period of years.

Several variations from this typical form of organization were, however, now introduced. First, a kind of *metayer* system, so-called tenantship-at-halves, was established by assigning to officials within a year five hundred tenants, on seven year renewable contracts, to work Company lands, giving the Company half their product for the support of government and education. Secondly, as an adjunct to this and to perpetuate it, apprenticeship as it had been long known in England was adopted by binding to the tenants poor boys and girls from the London streets who were to evolve under their guidance into tenants-at-halves. Industrial as well as agrarian apprentices were sent over but as the tenant system was a failure in practice, both tenants and apprentices were hired out to planters and the system was practically destroyed by 1624, though it nominally continued until 1642 when it had become a tenancy at a fixed rent or hired labor on the landed estates.*

The servant trade of the Company amounted to one hundred and fifty servants in 1619 and 1620, and the first local Assembly in the former year had begun the legal definition of the rights and duties of master and servant which was continued, by customary and statute law, until the institution had received its full development socially and economically. In Virginia this system maintained its predominance as the general form of labor organization for half a century and remained as the source of all skilled or high grade labor well into the Eighteenth century. Besides whites, negroes and Indians, prior to their first statutory enslavement in 1661 and 1670 respec-

*Robinson Ms., 188.

tively, were included in the legal and labor organization of servitude, whose supremacy as a system remained until 1683.

The increased demand for labor in expanding colonization, the action of the English government which cut off the supply of white servants at the same time that it encouraged the slave trade and tried to force negro slaves upon its colonies, and the superiority of slavery from the point of view of efficiency and control as a form of organization for such a labor supply as was coming, led to the transition from servitude to slavery in the last half of the Seventeenth century, and to the rapid decline of servitude in the last years of this century. It was not, however, finally extinguished in Virginia as a system till after the Revolution, regardless of the fact that it had been long supplanted by slavery as the chief labor system. The importation of convict servant labor was not finally prohibited till 1788, though the Virginia prohibition of the slave trade had occurred in 1778.*

The recognition of the status servitude by law in the colonies, beginning with Virginia, was as follows: Virginia, 1619; Massachusetts, 1630-36; Maryland, 1637; Connecticut, 1643; Rhode Island, 1647; North Carolina, 1665; South Carolina, about 1670; Pennsylvania, 1682; Georgia, 1732.

The other Southern colonies, thus, on their establishment found a satisfactory organization of labor worked out in the older colonial experience of Virginia, and they instituted similar systems of servitude or slavery differing only in unessential details of local legislation; and free contract labor where it existed was gradually absorbed or subordinated to these non-free forms of organization. The

*Ballagh, J. C., *White Servitude in the Colony of Virginia*, 92; *A History of Slavery in Virginia*, 23; Hening, W. W., *Statutes at Large of Virginia*, IX, 471, 472; XII, 62.

transition to slavery as the form of complete economic control and dependence was not—except in the case of South Carolina and Georgia, which adopted rather full slave codes from other jurisdictions—a single act but a continuing process based on a succession of local court decisions and statutes enacted for cause and covering a considerable space of time. The establishment of slavery by statute law as a form of labor organization in the English colonies on the American continent was as follows: Massachusetts, 1641; Connecticut, 1650; Virginia, 1661; Maryland, 1663; New York and New Jersey, 1664; South Carolina, 1682; Pennsylvania and Rhode Island, 1700; North Carolina, 1715; and Georgia, 1755, but the complete working out of this social and economic institution covered many years of customary and statutory legislation.

BIBLIOGRAPHY.—Ballagh, J. C.: *White Servitude in the Colony of Virginia* (*Johns Hopkins Univ. Studies,* XIII, vi-vii, Baltimore, 1895), and *A History of Slavery in Virginia* (Baltimore, 1902); Brackett, J. R.: *The Negro in Maryland* (Baltimore, 1889); Brown, A.: *The Genesis of the United States,* 1605-1616 (2 vols., Boston, 1890); *Calendar of English State Papers* (Colonial) (8 vols., London, 1860, 1862, 1880); Force, Peter: *Tracts and Other Papers Relating to the Colonies in North America* (4 vols., Washington, 1836-46); Hening, W. W.: *Statutes at Large of Virginia* (13 vols., Richmond, 1812); Hurd, J. C.: *The Law of Freedom and Bondage* (2 vols., Boston, 1858-62); Jones, C. C., Jr.: *The History of Georgia* (Vol. I, Boston, 1883); McCormac, E. I.: *White Servitude in Maryland* (*Johns Hopkins Univ. Studies,* XXII, iii-iv, Baltimore, 1904); McCrady, E.: *History of South Carolina* (Vols. I and II, New York, 1897, 1901); Mereness, N. D.: *Maryland as a Proprietary Province* (New York, 1901); Records of the Virginia Company (The Randolph MS. Vol. III); *Reports* of the Royal Commission on Historical Manuscripts (Vols. I-VIII, London, 1870-81); Stevens, W. B.: *A History of Georgia* (Vol. I, New York, 1847); *Virginia Colonial Records,* 1619-80 (State Senate Document); Winder MSS. (2 vols., 1606-76).

JAMES CURTIS BALLAGH,
Associate Professor of American History, Johns Hopkins University.

SERVITUDE IN THE ANTE-BELLUM SOUTH.

Servitude as a form of labor organization and as a social institution in America was distinct from slavery,—a more dependent form which developed from it in many cases,—both as respects time of duration, hereditary qualities and a large number of incidents of a more rigid character in slavery due to economic and social demands and to the fact that slavery was restricted to colored and subordinate races in North American experience.

Servitude might be defined as that legally established economic and social status of transported colonial laborers characterized by temporary and partial loss of political and personal liberty due to service obligations under a real or implied contract. Though servitude was an evolution from free labor, and in its early stages based chiefly on a free-will contract, a large class of involuntary as well as voluntary servants soon developed, and the contractural quality was reduced to a pure legal fiction. Applied, as it was chiefly in the Seventeenth and Eighteenth century colonies of England and France to whites, negroes, and Indians, it finds, in some respects, an analogue in recent forms of labor employed in Hawaii, Cuba, South America, and South Africa.

As at the same time a form of labor organization and an immigration agency for English colonies it was first developed in Virginia* and was extended to all the English mainland colonies North and South, though its chief economic importance was in the large agricultural colonies of Virginia and Maryland in the South and Pennsylvania in the North where it was the main labor supply for over a century. It continued to exist in Virginia and

*See article, "The Development of Labor Systems in the Colonial South."

Maryland for three-quarters of a century longer, and its legal life history in Maryland covered the extreme period from 1637 to 1819.

The demand of the planter and farmer for labor, the need of the commercial colonizing companies and proprietors, and the impoverished landless or vagrant class in Europe, and particularly in the British Islands where the many statutes of laborers had not solved the problem of the unemployed, brought large numbers of skilled and common workmen or thrifty prospective settlers to America throughout the Seventeenth century. They came under contracts of various kinds, verbal, written, or recorded which promised service, definite, or indefinite except as to time, and provided for control and mutual obligations during a limited period. These real or fictitious contractural obligations when enforced by law and extended or modified by custom limited the self-direction and personal liberty of the laborer and gradually transferred him from a free to an unfree status; made his labor indeed dependent, and definitely fixed the economic, social, and political incidents of a distinct institution.

This was first called "indented servitude" from the "indenture," or deed indented, which as early as 1619 or 1622 had come into use to express the contract between the importer and the immigrant laborer. Less frequently it was called by other names according to the origin of the title by which service became due, such as "servitude according to the custom," "servitude by Act of Assembly," "servitude by Act of Parliament," or "servitude by order of Court." But whether the servants were without written contracts, or were convicts, or had foolishly sold themselves to ship captains for transportation and were known as "kids," or were redemptioners,

or were kidnapped, or "spirited," persons, there was little distinction, except the length of their terms, in their servitude.

In origin servitude was either voluntary, arising from free contract for definite periods of service in lieu of transportation, maintenance, or profit sharing; or involuntary, where punitive legal authority in England or in the colonies imposed upon a person a term of service for the reformation of his vagrancy, or as a reprieve from a sentence for petty misdemeanors or political offences, the object being his removal from the realm as a useless or dangerous individual.

To enforce the reciprocal rights and duties of master and servant, arbitrary or legally sanctioned control was exercised by the master over the body and liberty of the servant, and a mass of custom and law grew up to limit the public and private rights of the individual. These incidents, whether social, legal, or purely economic, were almost all connected with the labor relation of the employee to the employer. The service due being generally not fixed but indefinite as to kind and amount though limited in duration was, if not regulated by "the custom of the country" or by written contract, chiefly subject to the master's will. As in English villainage, no court would here intervene to regulate the nature and quantity of the work in the laborer's behalf and he became a personal though not a territorial dependant upon the master, reproducing personal relations somewhat similar to those in feudal vassalage with the element of tenure left out.* Many of the incidents were designed to secure either mobility, certainty, or permanence in the labor supply. Most important of these were the master's developed rights of alienation of the service as property, addi-

*Vinogradoff, P., *Villainage in England*, 58, 63, 69.

tions to the time of service and corporal punishment as means of regulating a servant's conduct, while limitations upon the free personal rights of marriage, trade, and assembly became necessary to protect the property interest of the master. The servant, regardless of his protests, came to be a practical chattel, rated with the rest of the personal estate in inventories, liable to seizure in execution for debt, and his contract for labor together with his person was freely assigned, with or without his assent, both *inter vivos* and by will from a very early date, and a portion of his time could be rented out in case of the master's need or desire. As temporary property his own property rights were for the time either abridged or taken away, but he could sue and the courts were always open to him for maltreatment and breach of contract, unless he was disposed, as seemed to be very frequent, to run away and set up as a free man on the frontier or in another jurisdiction. The cases where servants received damages, discharge, removal or lessening of the period of service, or such specific reparation as was just from the master indicate that absconding from service was the practice of an unruly class of servants who wished to escape enforced labor. This was the case with the convicts and undesirable elements that came from the British cities.

Servants came from many classes, including younger sons of the nobility; political prisoners; religious malcontents; vagrants; ordinary convicts; poor, and sometimes prosperous, peasants of England, Scotland, Ireland, Germany, Switzerland, France, Holland, and Denmark; negroes and Indians. As slavery began to absorb the negroes and Indians in the latter half of the Seventeenth century, the servants irrespective of the convicts, whose importation was discouraged, were not generally a bad

element. The white servants when freed rapidly rose in the new country to a position of social and political equality, and even to prominence as planters, burgesses, or yeomen, though many became overseers or migrated to the frontiers where land was cheap. Beyond the degrading incidents of whipping, fetters, and branding, which were applied only to the unruly or runaways, servants enjoyed so many rights; such as, free time, commutation for punishment, medical attention, right of suit and complaint by informal petition, freedom dues to set them up as yeomen, and protection from service to colored persons or infidels, that little social prejudice attached to the freed man because of his previous condition.

At the time that the Carolinas and Georgia were being settled servitude was beginning to give way to slavery as the chief form of labor because of slavery's adaptability to the more southern products and its relative cheapness, due to the energetic slave trade to the colonies, and because English sentiment and regulations restricted the servant trade. These colonies therefore imported and employed a far less number of servants than Maryland and Virginia and some of the Northern colonies. In North Carolina the poor harbors and lack of direct trade with Europe, the comparatively smaller plantations and farms with few exports, and the poorer economic conditions of early times gave but a small market for a shipload of servants, and they never became a very serious factor in the colony. A few servants probably came in from the first, as land grants were offered from 1665 for able-bodied men servants, women and children, and for slaves, and a liberal holding of land as a freedom right for servants, but the first settlers being poor Virginians, and the Lords Proprietors encouraging slave importations by "headrights" of fifty acres for all over fourteen

years old, servitude never obtained the hold here that it did in the tobacco colonies to the north.

South Carolina offered similar terms for the importation of servants, and the ordinary headright of fifty acres for adults, and a freedom right of the same amount to each servant. While this and the character of servant legislation indicate that from first to last quite a number came to the colony, they were very soon outnumbered by slaves, who were also introduced by the first Barbadian settlers together with their slave code. The rice swamps and the culture of indigo, which went so hard with the white man, found an ideal laborer in the negro. And by 1708 it was found that eighty men and women servants had been lost in the preceding ten years by death or ending of their terms, and that in a total population of 9,580 there were only 120 servants left while the slaves were numbered by the thousands. By 1716 it had become necessary to restrict the growth of slavery by the legal provision that a planter must have one white servant to every ten negroes, and heavy duties were laid upon slave importations. This ten per cent. proportion could not, however, be maintained, and in the years between 1733 and 1738 negroes were coming at a rate between 2,500 and 3,000 a year. By 1757 there were 50,000 slaves in South Carolina, by 1770 there were 70,000 negroes and a white population of probably not over 50,000. The economic rôle of white servitude was therefore a subordinate one from very early days in South Carolina, though its social and legal character* was the same as in Virginia and Maryland.

Georgia at first occupied a unique position in the South because the Trustees prohibited slavery, the labor system then common to the South, and encour-

*Statutes of South Carolina, II, 22, 30-38, 648; *British Empire in America*, II, 128.

aged servitude partly on the ground of economy and of its supposed adaptation to the land system and to the character of the settlers. Little extra labor was supposed to be needed, and it was thought that German servants would be one-third more profitable than negroes, as skilled labor rather than physical endurance was the requisite. Welsh, English, and German servants of both sexes, and whole families, were indentured for periods of from four to fourteen years, and the rights to their service were sold at prices varying from £2 to £6. The few servants were not enough to work the land grants adequately, and petitions arose in 1735, 1737, and 1740* complaining of the lack of servants for the cultivation of land. In a ship load of sixty-one German servants, some of whom were sold at Savannah for £6 each, there were only nineteen that could be distributed, one each, to husbandmen, as those that were not women and children were artisans, bakers, millers, and shoemakers fit only for such a town as Ebeneezer. According to James Habersham, president of the council and a temporary governor of Georgia, white servant labor was "intolerably costly," and both man and maid servants were scarce, ignorant, and saucy. Land could be bought in England with what it cost to clear it in Georgia, and wages for hired labor were three times the English rate. The missionary, George Whitefield, approved of the substitution of negro slavery and employed it himself to advance his work. Beyond the Highlanders of Darien and the Germans of Ebeneezer, who were partly independent of agriculture for support, sentiment almost universally turned against servitude and toward slavery, because the negroes alone could work in the hot season and survive the malarious

*"A State of the Province of Georgia," Nov. 10, 1740, begged the trustees to send annually good English and Welsh agrarian servants, and not Londoners, on five year contracts.

climate. Though in six years preceding 1739 the Trustees had imported 1,383 persons, only 109 freeholders remained in Savannah. Servants absconded and settlers emigrated to South Carolina. After the parliamentary inquiry of 1742, which gave them no relief, the settlers began to evade the regulations of the Trustees and hired South Carolina negroes, who would either be claimed by the South Carolinians if trouble arose, or their term of service would be gradually extended to a lifetime or a hundred year lease. Servitude finally broke down in Georgia because of the paucity of the servants sent over, their lack of adaptability to local conditions, and the fact that Georgia with white servant labor could not compete with her neighbor, South Carolina, employing slave labor which was only half as expensive.

Lord Baltimore adopted the system of servitude as established in Virginia for settling and developing his colony of Maryland. The land system of the colony, as in Virginia, became closely identified with the labor system, and Baltimore because of the financial difficulties growing out of his Maryland venture gave lands for the money with which to send servants and offered rewards of station, such as the governorship, and a liberal headright of lands for the importation of settlers and servants. Profiting by Virginia's example, servants were sent on a large scale, and up to 1682 land distributions were largely based on importations of servants, grants of 2,000 acres at an annual rent of 400 pounds of wheat being promised to importers of five servants, and 100 acres at a rent of 20 pounds of wheat being offered for each servant under the number of five. As land became scarcer the importation of twenty able bodied men was necessary for a 2,000 acre grant, and for smaller importations the tendency was toward the Virginia 50 acre headright.

Representatives of all nationalities and classes of servants in the American colonies of England were found in the colonies North as well as South,—convicts as also the desirable voluntary British, German, Swiss, Danish and other servants, but those of German descent predominated in Maryland and Pennsylvania. Particularly after the Revolution, when the British servant supply was cut off, were the Maryland servants of German or Swiss origin, and in no other state at this time was the institution of great economic importance. It was preëminently, both North and South, a labor organization of the Seventeenth and Eighteenth centuries. Its extent in numbers can only be approximated. In Virginia, from 1664 to 1671, the average yearly importation of servants was 1,500. By 1683 there were 12,000 servants in this colony, probably the greatest number of servants at one time in Virginia. A census of Maryland in 1752 shows a total of 8,851 servants in a free population of 98,357, of whom only 1,981 were convicts.*

Servitude as an economic system had a two-fold character, that of a labor supply and form of organization, and that of an immigration agency. As to the first its superiority to completely free labor in the South is unquestionable, because of the certainty and control of a labor supply through the five to seven or more years contract, and because of the definite separation of the capitalist and laborer under the Southern system. It offered the possibility of the combination of labor and capital on a large as well as on a small scale, and harmonized with an expansive system of land grants and staple export products. The fifty-acre or more headrights increased plantation areas while also large purchases of servants were thus encouraged. The economy of

*Archives of Maryland, II., 400, 401.

providing for the maintenance of the enlarged number of this certain and stable labor force gave the early plantation an economy that no day, month, or year waged-labor could have secured. Before the evolution of slavery, by natural economic as well as political processes, servitude seemed an ideal form of organization for a labor force under Southern conditions of production.

As to the second feature, that of immigration, servitude offered a means of settling the country with an element skilled by an apprenticeship to agriculture or the trades, while it opened the way for the poor or ambitious peasant to obtain an effective loan of his cost of passage to a new country where his industry could establish for him an independent landed position with ultimately full economic, social, and political privileges. Its tendency as far as the voluntary servants were concerned was to send America an industrious and promising element of immigration, while it opened for the kidnapped and convict elements an opportunity for reformation and respectability not open to them perhaps at home. Ultimately the system must have fallen from its own organization had not slavery and English legislation brought its extinction. The evolution of the freed servant into the yeoman meant war with the plantation system by the increase of the small non-capitalistic farmers just as the period of servitude had the directly opposite effect of supporting and extending the landed plantation. This ultimate effect, however, might have been postponed for a long time, and it seems clear that slavery supplanted servitude as a form of organization as much because of the character of the labor imported, negroes, as because of the strictly economic superiority of slavery as a form of labor organization.

BIBLIOGRAPHY.—Anburey, T.: *Travels Through America* (2 vols., London, 1789); Ballagh, J. C.: *White Servitude in the Colony of*

Virginia (*Johns Hopkins Univ. Studies*, XIII, vi-vii, Baltimore, 1895); Bassett, J. S.: *Slavery and Servitude in the Colony of North Carolina* (*Johns Hopkins Univ. Studies*, XIV, iv-v, Baltimore, 1896); Brackett, J. R.: *The Negro in Maryland* (Baltimore, 1889); Bruce, Philip A.: *The Economic History of Virginia in the Seventeenth Century* (Vol. I, New York, 1896); Hening, W. W.: *Statutes at Large of Virginia* (13 vols., Richmond, 1812); Jones, C. C., Jr.: *The History of Georgia* (Vol. I, Boston, 1883); Kalm, Peter: *Travels into North America* (3 vols., London, 1771); McCormac, E. I.: *White Servitude in Maryland* (*Johns Hopkins Univ. Studies*, XXII, iii-iv, Baltimore, 1904); McCrady, Edward: *The History of South Carolina under the Proprietary Government* (New York, 1897), and *The History of South Carolina under the Royal Government* (New York, 1901); *Archives of Maryland* (*Proceedings and Acts of the General Assembly of Maryland* (5 vols., Baltimore, 1883-1894); *Statutes of South Carolina* (12 vols., Columbia, 1836-1855); Stevens, W. B.: *A History of Georgia* (2 vols., New York, 1847); Virginia, MS. Land Books of, MS. County Court Records of (Capitol and State Library of Virginia, Richmond, Va.).

JAMES CURTIS BALLAGH,

Associate Professor of American History, Johns Hopkins University.

THE SLAVE-LABOR SYSTEM IN THE ANTE-BELLUM SOUTH.

Slave Labor During the Colonial Period.—Slave labor was early introduced into nearly all of the New World colonies, whether Spanish, French or English. The causes of this introduction were in every case practically the same—the necessity for securing a stable and certain labor supply not otherwise obtainable. The natural resources of the colonies were bountiful and were practically free to anyone who desired to develop them. But, as in all new countries, labor was difficult to obtain. Capital from Europe was available, but, since land was practically free to all, the average free man would not come to the New World as a constant laborer for some one else; he preferred to work for himself on his own land. The natives in America, especially

in North America, were relatively few and were unsatisfactory as free laborers. Consequently in order to employ capital and to develop the resources of the New World forced labor was necessary.

Spain was the first European country to make use of slave labor in her American colonies. Spanish laborers could not be induced to come; the climate was unsuited to whites, and much of the work in the mines and on the plantations was so difficult that it was practically certain that a supply of free labor could not be obtained. The natives were first enslaved but were found to be unable to endure the work. Negroes from Africa were then introduced and in the Spanish colonies negro slavery was an organized system before it was brought to the English colonies. The Island of Cuba, notably, was developed by slave labor and it could not have been developed without it.

The English colonies in the West Indies and on the Atlantic coast of North America had ultimately a similar experience. The labor problem early became a most serious one. The forced labor of Indians was tried but found unsatisfactory. Then unfree whites *—convicts from England, and indentured servants—were brought over and sold to the colonial employers. The unfree white laborers were an important factor in the development of the colonies. From this class were obtained servants and helpers for the farmers; but the supply was too small to enable the colonies to develop the plantation system on a large scale. The introduction of slavery solved the labor problem for the would-be planters. Servants were still used but in the last half of the Seventeenth and in the Eighteenth centuries negro slaves imported from Africa fur-

*Negroes and Indians also before their legal enslavement were worked as servants. See article "The Development of Labor Systems in the Colonial South."

nished the principal labor supply in the Southern colonies.

The negro slaves were employed as domestic servants, to some extent as laborers on small farms, but their principal use was on large plantations. The planter, on the seacoast or riverside, found himself with plenty of land; but, as a rule with the highest wages he failed to attract the white immigrant who preferring economic independence, passed beyond the plantation districts and took up, in the back country, good land at slight cost. The whites of small means were thus found back toward the frontier working their own holdings. The planters, with slave labor, were on the more accessible lands of the coast and the river margins. Thus one of the first effects of the operation of the slave-labor system was the segregation of the poorer whites away from the planting districts where negro labor predominated.

Most of the English-American colonies had some unfree labor, whites or negroes, and in New York, for example, slave labor was for a long while of considerable importance. But the tendency, though the institution was recognized first by statute in Massachusetts in 1641 and not till 1661 in Virginia, was to localize slavery in the South. The New England and Middle colonies gradually found it unsuited to their needs and it was discarded. But more and more slaves were brought to the South, and especially in Virginia and South Carolina was industry based upon their labor. Georgia, from which slavery was at first excluded, was finally allowed by the controlling authorities to import slaves and a rapid development of the hitherto retarded colony followed. Of the Southern colonies North Carolina was least suited to slave labor, but here, as in the other colonies, there were districts in

which negro slaves were almost the only manual laborers.

Before the end of the first quarter of the Eighteenth century the slave-labor system had developed enough to show characteristic economic features that distinguished it to the end. The plantation system was organized; the tendency toward segregation of races and the formation of the Black Belt was evident; the westward expansion of the farming districts followed by frontier plantations and the expanding slave-labor area; the production of staple crops alone by slave labor; and many other concomitants of a forced labor system. As soon as the white small farmer felt the approach of the expanding plantation system he sold to the planter for a good price and moved farther west to good but inexpensive lands; most white immigrants who came to the South passed through the slave districts to the frontier of the farming region and there became farmers. A number of farmers grew wealthy, developed their farms into plantations worked by slaves, and were merged into the Black Belt. But the segregation of the poor whites into the farming districts and the concentration of slave labor in the Black Belt was never complete. There were always some white workers in the slave districts, some farmers adjoining the plantations, some owners of a few slaves working along with them as overseers.

The plantation system organized during the colonial period was not greatly modified during its later history. Its elements were (1) a large supply of land suited to the production of staple crops; (2) a non-free labor supply chiefly of slaves; (3) staple products and proximity to markets or to transportation agencies for exports. The complete plantation organization was as follows: (1) manager or

owner in charge of the plantation; (2) overseer who directed the slave labor; (3) on the larger plantations, the drivers—trusty slaves who acted as assistants to the overseers; (4) the slave laborers who, as the time went on, were divided more and more according to strength and ability, into classes —field hands, carpenters, blacksmiths, drivers, house servants, plantation nurses and cooks, etc. On the average plantation the owner was also manager and overseer. There were three accepted methods of getting work from negro slaves: by assigning a task for the day or the week to each person; by the gang labor system, where a first-class driver set the pace and the others were expected to follow; and by sending the slave to work with no other incentive than the fear of punishment. The last method was the poorest; by the first the best results were secured.

There were relatively few large plantations during colonial times but the tendency was toward their increase in size and number, the most rapid increase being in the South Carolina rice district. In 1740 there were about 140,000 negroes in the American colonies; in 1775 about 480,000, and in 1790 about 750,000, about 35 per cent. of the total population of the slave states. As a class the slaves became more and more docile and skillful under the discipline of slavery, but slave labor during the colonial period was found profitable chiefly in the production of the Southern agricultural staples—indigo, rice, and tobacco.

Conditions Affecting Slave Labor, 1775 to 1820.— For some time after the beginning of the American Revolution certain conditions existed adverse to slave labor and during that period it was doubtful if the system would continue to expand. In the first place the theories of the Revolution were un-

favorable to slavery, and many leaders, among them Washington, Jefferson, and Patrick Henry, condemned it. Jefferson in 1779 and St. George Tucker in 1796 proposed schemes for emancipating Virginia slaves. The economic losses caused by the long war and the closing of British markets to American goods, which lessened the demand for slave products, caused industrial distress in the slave-holding states, notably in Virginia. The exhaustion of the soil of the coast states by slave-labor methods was becoming generally and painfully evident. The rapid drift of the poorer whites to the trans-Allegheny lands began to alarm the thoughtful leaders in the seaboard states. And since there was now less evident necessity for slave labor, and less certain income from it, the people of the upper South were much inclined to rid themselves of the institution. In the states of the upper South many individuals began to emancipate their slaves. As a rule the burden of the institution lay heavy upon the slaveholders of this part of the South.

But other influences were at work which by 1820 fixed firmly the slave-labor system upon the South. Most important among these influences were the great inventions (1775-1793) of the Industrial Revolution: the spinning, carding and weaving machines, all important in cotton manufacture; the steam engine, with its application to cloth-making machinery and to transportation; and above all the cotton gin which Eli Whitney invented in 1793. Each invention increased many times the demand for cotton. The opening of the transmontane region to settlement, and the purchase of Louisiana in 1803 made available large regions well suited for the cultivation of cotton.

The increased demand for slaves in the lower

South relieved the burdened upper South of its excess of unprofitable laborers. The steamboats, and later the railways, made possible the rapid development of the Southwest. The demand for rice, tobacco, and other slave-made staples also increased, and they as well as cotton brought good prices. The operation of these influences sufficed to establish the slave-labor system firmly in the lower South and to check the growth of anti-slavery sentiment in the border states, while the rise of abolition sentiment and agitation in the North had much to do with stopping in the South the discussion of emancipation schemes. Slavery, in the border states and in parts of the lower South had by 1830 developed as a mild patriarchal system; in the Southwest it soon became largely a commercial institution.

The Development of Slave Labor, 1820-1860.— The development of the slave-labor system during the generation before its destruction may be measured, though not accurately, by the extension of slavery into the Southwest and the expansion of the slave population, by the rapid development of the states of the lower South, and by the growth of the cotton industry. Since cotton was the most important slave-labor product after 1830, the statistics relating to the increased production of that staple are significant.*

The increased demand for cotton, caused by the perfection of the machinery used in cotton manufacture, was met by the extension of cotton plantations over the fertile fields of the new Southwest. The expansion of slave labor and of the cotton industry proceeded *pari passu,* for before the War of

*Reduced to bales of 400 pounds each, the cotton production in round numbers was as follows:

1800....156,000 bales.
1810....340,000 bales.
1820....572,000 bales.
1830....871,000 bales.
1840....1,750,000 bales (about).
1850....2,445,000 bales.
1860....5,387,000 bales.

Secession the greater part of the cotton was produced by negro slaves. The increase from 1820 to 1860 of the negro population, of which an average of 90 per cent. were slaves, corresponds somewhat roughly with the expansion of the Southwest in population and territory and with the increased cotton production.*

The rapid development of population in the South, 1820 to 1860, was confined mainly to the new slave states—Kentucky, Tennessee, Alabama, Mississippi, Florida, Louisiana, Missouri, Arkansas and Texas, and much of this increase was due to the moving of slaves from the border states to work on cotton and sugar plantations. The following figures of percentage of increase in total population measure the development of some of the newer slave states from 1820 to 1830; Kentucky, 22 per cent. increase; Louisiana, 41 per cent. increase; Mississippi, 81 per cent. increase; Alabama, 142 per cent. increase.

*The increase of negro population is shown in round numbers in the following table:

NEGRO POPULATION, 1740–1860.

1740.... 140,000.	1820....1,777,000.
1776.... 300,000.	1830....2,328,000.
1790.... 750,000.	1840....2,873,000.
1800....1,002,000.	1850....3,638,000.
1810....1,380,000.	1860....4,441,000.

The table given below will show the distribution of the negro population among the several Southern slave states from 1810 to 1860. From the statistics one may note the slow increase in the upper South as compared with the rapid increase in the cotton states.

DISTRIBUTION OF THE NEGRO POPULATION, 1810–1860.

In Thousands.

Census Year	1810	1820	1830	1840	1850	1860
Maryland	145	147	155	151	165	171
Virginia	423	462	517	499	526	549
North Carolina	179	219	265	268	316	361
South Carolina	200	265	323	335	394	412
Georgia	107	151	220	283	384	465
Florida	...	...	16	26	40	62
Alabama	...	42	119	255	345	437
Mississippi	17	33	66	196	310	437
Louisiana	42	79	126	193	262	350
Texas	...	...	...	...	58	183
Arkansas	...	2	5	20	47	111
Tennessee	45	82	146	188	245	283
Kentucky	82	129	170	189	220	236
Missouri	4	10	25	59	90	118

The character of the increase in one state, Louisiana, is shown by the following statistics. In 1810 the total population was 76,500; in 1815 it was estimated at 90,000; and five years later, in 1820, after cotton raising began, at 154,000, of whom 73,000 were slaves. In the Gulf plantation states a rapid increase was kept up until 1860. From 1850 to 1860, Texas, the newest plantation state of the Southwest, increased in population 184 per cent.

The expansion of the slave-labor system in the Southwest was accompanied by a slow decline of the institution in the border states. The increased demand for cotton and the development of the sugar industry caused a demand for slaves in the lower South, not in the upper South. The border slave states, therefore, sent their surplus negroes to the cotton states—some by sale, but more with their owners or owners' sons, moving to a better field for slave labor. As a result the proportion of slaves to whites constantly diminished in the old states. In Virginia in 1782 the negroes formed 50 per cent. of the population; in 1830, 43 per cent., and in 1860, 37 per cent.*

As slave labor became unprofitable in the upper South and the excess was sent further South, white farmers and farm laborers increased in numbers.

---

*The distribution of the free negro population is shown in the following table:

FREE NEGRO POPULATION, 1830–1860.

In Thousands.

Census Year	1830	1840	1850	1860
Maryland	52	62	75	84
Virginia	47	49	54	58
North Carolina	19	22	27	30
South Carolina	7	8	9	9
Georgia	2	3	3	3
Florida	1	1	1	1
Alabama	1	2	2	3
Mississippi	½	1	Decrease	Decrease
Louisiana	16	25	17	18
Texas	..	..	Decrease	Decrease
Arkansas	..	Decrease	Decrease	Decrease
Tennessee	4	5	6	7
Kentucky	5	7	10	10
Missouri	..	1½	2½	3½

Frequently, abandoned plantations were again developed by white labor. In Missouri the rapid immigration of foreigners checked the expanding slave-labor system. On the northern borders of the slave states the number of free negroes increased, a sure sign of decay of the slave-labor system. In Maryland in 1860 the free negro population of 12 per cent. furnished nearly half the labor force.

The cotton industry declined in the older states of the South in proportion to its expansion in the Southwest. In 1800 three-fourths of the cotton was produced in Virginia and the Carolinas; sixty years later two-thirds was produced in Georgia, Alabama, Mississippi and Louisiana.

The tendencies discussed above may then be summed up as follows: the cotton industry was enormously expanded, mainly in the new states of the Southwest, the older states with a constantly lessening proportion of slaves making a constantly lessening proportion of the cotton crop; there was a corresponding extension of the slave-labor system to the Southwest, while the border states sent out thousands of slaves each year to the cotton districts; in these border states slave labor was slowly giving way before free white labor.

Within the lower South itself similar expansions and recessions of slave labor were to be observed. The plantation system invaded former farming districts on the one hand; on the other the plantations, exhausted or abandoned, were sometimes divided into farms tilled by free labor. In any community the growth of the slave population always tended to drive out white laborers and small farmers. These same economic forces continued to operate from the first extensive organization of the slave-labor system in the lower South to the end of it:

the plantation system expanded, the planters purchased from the farmers, they in turn went farther west or farther into the backwoods for cheaper lands and a more democratic society. Again and again this was repeated until the plantation system covered the best lands of the Gulf plain. Nearly all the Black Belt country was first settled by small farmers. For example, the great plantation in Mississippi owned by Joseph and Jefferson Davis was made up of dozens of small farms purchased by Joseph Davis from owners who after the approach of the plantation system wished to move farther west. As late as 1860 the plantation system was thus expanding in parts of the states of Alabama, Arkansas, Mississippi, Louisiana, Tennessee, and Texas. Senator C. C. Clay in his oft-quoted speech in 1856 referring to conditions in northern Alabama mentioned the operation of the segregating forces of slavery and cotton. He stated that in Madison county, Alabama, the small farmers after partially exhausting the soil sold out and went West, while the planters able to survive on a smaller income per acre, increased their holdings, all surplus income being invested in lands and slaves. In 1825 this county cast 3,000 white votes; in 1855 it cast 2,300 votes; the number of slaves had greatly decreased, and the plantations were larger, while many abandoned farmhouses were to be seen.

The line between the farming districts where free labor was the main dependence and the planting districts was never sharply drawn; there were always small holdings in the Black Belt and always plantations in the free labor districts. But the tendency was distinctly toward the segregation of the races and the separation of the two labor systems.

The forces which drove the farmer and white labor before the expanding plantation system were

various and complex: in the first place owing to the economy of plantation management the owner of a small farm was at a disadvantage; socially the small farmer, or the white laborer was not at home in a planting community; better political opportunities were offered in the farther West or in the upland and hill districts where planting could not be carried on successfully. So the poorer whites who could fled before the slave system, some to the Northwest, more to the Southwest, and more and more toward the last did they settle in the least fertile districts of the slave states. In the West, or in the less fertile districts of the South, land was cheap and a man could be his own master; little was produced of the staple products, but the small holdings were made self-sufficient by the raising of grain and stock.

It cannot be said that free labor in the same way pushed back the slave-labor system. The planter freed slaves or abandoned a district when economic conditions forced him to do so; then slowly came in free labor upon small farms. This slow movement was taking place in the South Atlantic states, especially in Maryland, Virginia, and North Carolina. In the older states large holdings of slaves tended to break up into smaller holdings, and owners worked with their men. Slave labor was then used on farms rather than on plantations, and the latter tended to decrease in relative importance.

The plantation system from its nature had limitations which checked its spread: Slave labor was very costly and as a rule only those who inherited slaves could hope to succeed at planting, too much capital was absorbed in slave labor, the value of the slaves being about equal to the value of all other property in the planting regions. A plantation must be near transportation agencies and yet it

could supply freight at only one season of the year, which was not a great inducement to railroad building. The soil suited to the cultivation of cotton, rice, tobacco, and sugar was limited, and much of it quickly exhausted by the agricultural methods of the time. The slave labor of the plantation could not be depended upon to produce varied crops, fruits, grains, dairy products, fine stock, or to use improved tools and fertilizers. Then, too, free land tended to disappear, and the farmer and free laborer would not be always retreating before slave labor. As soon as cheap land disappeared slavery as a labor system was doomed.

Relative Importance of Slave Labor.—To estimate the relative importance of slave labor as compared with free labor is very difficult. The census statistics indicate clearly that the larger part of the staples, cotton, sugar, rice, and tobacco, was produced by slave labor. These staples constituted the bulk of American exports; they were the money crops of the South. The census also shows that slavery was for the most part concentrated in the Black Belt area embracing about one-third of the territory of the South. In the remaining two-thirds dwelt a free population, sustained by its own labor, and producing for market some grain and staples. The number of whites who worked at manual labor was always greater than the number of slaves, though the latter produced more per capita of market products.

The population of the fifteen slave states was in 1860 in round numbers 8,000,000 whites and 4,000,000 slaves. Of the latter about one-third were available for manual labor; of the former about one-fourth, since fewer white women than negroes worked outside of the home. Of agricultural laborers of all degrees both races furnished about

the same number—about 1,200,000. In the minor trades and somewhat skilled occupations the white greatly predominated. The skill of the slave has been much overrated. Whatever the advocates of slave labor may have claimed for it the system could hardly have supported the bulk of the white population as some writers seem to assume. The average white man of the South supported himself and his family by manual labor of some kind.

Of the 8,000,000 whites there were only 384,000 slaveholders, representing probably 325,000 families. Of these 277,000 owned less than ten slaves; only 10,781 owned fifty or more, and only 1,733 owned one hundred or more. There were at least 6,000,000 Southern people who had no direct interest in slave labor. The analysis of slave-holding statistics in three Southern states will show how few people were dependent in any way upon slave labor. In Virginia in 1860 out of a population of 1,047,299 there were 52,126 slaveholders. Of these one-third owned one or two slaves; one-half owned four or less, and only 114 owned 100 or more. Half of the slaves were held in lots of less than twenty; one-fourth in holdings of one to nine, and there were 250,000 white laborers in the state, a larger proportion than in Ohio. In Georgia, where the average open farm contained 150 acres, there were 59,000 farms and about 100,000 white men who worked on farms as owners, tenants, or out-door laborers. There were about 41,000 slaveholders; of these 3,473 owned thirty or more slaves, and 3,600 owned 500 acres or more of land. Farmers to the number of 55,000 each owned less than 500 acres of land, and 38,000 slaveholders owned less than thirty slaves each, while 15,000 land owners possessed no slaves. In Louisiana, one of the great planting states, there were only 370 plantations of

more than 1,000 acres and only 1,532 of over 500. The above statistics indicate not only that the number of slaveholders was relatively small but also that the number of large holdings were few. The so-called planter was now as a rule a farmer owning a few slaves and working with them as a manager, overseer, and driver.

General Tendencies and Conditions in 1860.—Recent statistical studies of the slave-labor problem during the generation before the war have developed many important facts and exhibited significant tendencies not fully understood during the existence of the system. It is established that large holdings of slaves and of land were only slowly increasing in number and size; that the most rapid increase took place in times of extreme prosperity or the reverse—when inefficient planters were ruined or when farmers could be bought out easily. This increase was for the most part in the newer cotton states. When the available land in any district was occupied then the slave-labor system was at its height in that community and a slow decline was later sure to follow.

Notable also was the fact that in the border states the slave-labor system was losing its hold, the surplus negroes being sent mostly to the far South, and the fact that the number of free negroes greatly increased in these states was significant of the decay of the system. In the cotton states of the Atlantic seaboard the progress of slave labor was practically at a standstill. Both in the border states and in the cotton states the number of white farmers and free laborers was increasing faster than slave labor—very much faster in the border states where plantations were divided into farms, villages springing up and the beginnings of other industries appearing. The number and total area of small

farms with free labor were gaining over the plantation system. Further, it was evident that a larger and larger proportion of the slaves was being used on small establishments—slave labor was being diffused. The 27 per cent. increase of white population in the slave states during the decade 1850-1860, as compared with the 23 per cent. negro increase is significant. The more rapid increase of whites, 37 per cent. in the free states, indicated moreover that the large immigration of the whites from the South to the Northwest would soon be checked by the filling up of the unoccupied lands, and then would come a more serious contest between free and slave labor.

Free labor could not successfully compete with slave labor until the cheap land was practically exhausted. As long as desirable unoccupied land could be had to which whites would go, slave labor could oust free white labor from a community. From old estates to the new came pioneer farmers who opened up the land, then came planters with slaves from the wornout soil of the old slave states, and purchased these farms, whose owners retreated to remote or to less fertile districts. This process of expulsion and segregation resulted in putting on the best soils of the South a population composed mainly of slave laborers, efficient as slaves can be and more efficient than free negroes, but ignorant and devoid of initiative, while the more intelligent free white labor was left in the poorer and inaccessible districts or driven beyond the limits of the South. Capital confined its activities mostly to the planting districts, where the character of the labor and land grants had fixed agriculture with staple crops only and constantly increasing cost of production as the prevailing industry. The water power, the mineral resources, the manufacturing sites of

the white districts could attract slight attention as long as capital was interested mainly in slave labor and export staples, and as long as transportation agencies reached only the Black Belt.

But in spite of the fact that the slave-labor system was in 1860 gaining slowly on free labor in the Southwest, and in spite of the difficulties with which free labor had to contend in other parts of the South, it was evident that slave labor had already reached its maximum expansion, and that free labor would in time begin its progress in the wake of the slowly declining slave system.

BIBLIOGRAPHY.—Ballagh, J. C.: *A History of Slavery in Virginia* (Baltimore, 1902); Banks: *Land Tenure in Georgia* (New York, 1905); Bassett, J. S.: *History of Slavery in North Carolina* (Baltimore, 1899); Brackett, J. R.: *The Negro in Maryland* (Baltimore, 1889); Chadwick, F. E.: *Causes of the Civil War* (New York, 1906); Collins, W. H.: *Domestic Slave Trade of the Southern States* (New York, 1904); DeBow, J. D. B. (ed.): *The Industrial Resources, etc., of the Southern and Western States* (3 vols., New Orleans, 1852-53); *DeBow's Commercial Review* (New Orleans, 1840-61); Dyer, G. E.: *Democracy in the South Before the Civil War* (Nashville, 1902); Hammond, M. B.: *The Cotton Industry* (New York, 1897); Hart, A. B.: *Slavery and Abolition* (New York, 1906); Helper, H. R.: *The Impending Crisis* (New York, 1860); Hoffman, F. L.: *Race Traits and Tendencies of the American Negro* (New York, 1896); Ingle, E.: *Southern Sidelights* (New York, 1896); Munford, B. E.: *Virginia's Attitude Toward Slavery and Secession* (New York, 1909); Olmsted, F. L.: *A Journey in the Seaboard Slave States* (New York, 1856); *A Journey in the Back Country* (New York, 1860); *A Journey Through Texas* (New York, 1857); and *The Cotton Kingdom* (New York, 1861); Phillips, U. B.: *History of Transportation in the Eastern Cotton Belt to 1860* (New York, 1908); Rhodes, J. F.: *History of the United States* (7 vols., New York, 1893-1906); Tillinghast, J. A.: *The Negro in Africa and America* (New York, 1902); Turner, F. J.: "Colonization of the West" (in *The American Historical Review*, January, 1906); Smedes, S. D.: *A Southern Planter* (New York, 1887); United States Census Reports, 1790 to 1860.

WALTER L. FLEMING,
Professor of History in Louisiana State University.

THE ECONOMICS OF SLAVE LABOR IN THE SOUTH.

The United States census returns of 1860 and 1900 show that in the two main products, cotton and corn, the per capita output was smaller by at least 40 per cent. in the latter year than in the former, in the states of Alabama, Mississippi, and Louisiana. The same observation holds true for such typical black-belt counties in these states as Lowndes and Marengo in the first, Yazoo and Bolivar in the second, and Madison and Rapides parishes in the third. In these communities agriculture had not been revolutionized in the interim by the introduction of commercial fertilizers as it had been in the Atlantic states, and the situation had not been affected by a great influx of white laborers as in Texas. These Alabama, Mississippi, and Louisiana statistics probably furnish the most accurate available test of average negro efficiency in the slavery régime as compared with average negro efficiency in the present day régime of wage labor and peasant farming. The experience of recent employers of Southern convict labor tends to the same conclusion that in tasks where gang work is feasible, average negroes when under compulsion are nearly twice as productive as when left to the control of their own impulses. Slave labor, it should be said, was usually not under as severe compulsion as convict labor is; but any loss due to laxity of coercion was probably more than offset on the average by virtue of the systematic appeal made by very many masters to the loyalty of one type of their slaves and to the pecuniary self-interest of another. Great numbers of domestic servants were more stimulated by personal devotion and pride of service than by fear of punishment.

On the other hand, a large proportion of the specially eager and provident slaves, particularly artisans, shopkeepers and job-workers in the towns, were allowed to hire their own time from their masters and to retain for themselves all earnings above the amount agreed upon for their hire. By this means some slaves bought their manumission. Others preferred a heightened standard of comfort as slaves to the doubtful benefits of legal freedom. On the whole, negro slave labor was probably not as productive as free white labor among modern industrial nations; yet in view of its being negro labor, first, last and always, and slave labor incidentally, it was brought in the ante-bellum régime to have a distinctly high degree of efficiency.

Nevertheless, slave labor proved to be a type of labor peculiarly unprofitable to its employers in a multitude of cases, and peculiarly burdensome in the long run to nearly all the communities which maintained the system. This was because the institution of slavery involved the capitalization of labor-control, caused the exportation of wealth from the prosperous districts for the purchase of recruits to the labor supply, and excluded or discouraged most of the population save masters and slaves from sharing or endeavoring to share in large-scale industrial affairs. Furthermore, slavery as an inseparable element of the plantation system tended to devote the great bulk of negro labor incessantly to the production of the staple crops. This fixed the community in a rut and deprived it of the great benefits of industrial diversification. The strong upward tendency of slave prices in the whole period following the close of the African slave trade* caused a constant increase of the financial investment in slaves as compared with the investment in all other

*See article on "The Economics of the Slave Trade."

sorts of property; it reduced the resources available for equipment and current expenses; and it increased the liability of great damage to the community resulting from any financial crises which might occur.* This rise of prices led to a distinct overvaluation of slaves in the closing decades of the antebellum period. There are records of numerous instances where slaveholders employed Irish and German gangs for ditching, levee building, and other heavy and dangerous work, in order to safeguard the life and health of their precious slaves. When unskilled able-bodied field hands were quoted in the market at from $1,200 to $1,800 per head, as they occasionally were, between 1835 and 1860, they were too dear for economic employment in any but the most profitable tasks and those affording the least risk of disease and accident. The employment of slave labor in factory work was relatively slight, partly because negro aptitudes were not well suited for it, and partly because their labor at the market rates usually prevailing for slaves was too dear for the purpose.

The plantation slave-labor régime, by force of circumstances which they could not control, involved the planters in a severe competition with one another in the purchase of labor and in the sale of crops. This competition carried the price of labor so high and the price of the staples so low that there tended to be no margin of real profits for any but the greatest and most efficient planters. Usually scarcely one-fourth of the Southern white population belonged to slaveholding families; and in 1860 the number of persons owing ten slaves or more was returned at 107,957 in a total white population in the Southern states of 8,099,760 souls. In the slaveholding communities, accordingly, the advantages

*See article "Financial Crises in the South."

of the slave-labor system were confined to the negroes themselves and to a small proportion of the whites. And those whom it did not benefit, it in many cases positively injured. By reason of its lower standard of comfort and the ability of its employers to tide over crises, slave labor tended, like penitentiary labor does, to drive away the competition of free labor and restrict its opportunity. The deprivation of opportunity from free laborers was a vice of the régime to which its capitalistic absorption of earnings alone is comparable. Slave labor was, therefore, on the whole, productive but less profitable to the communities employing it than to the outside world.

BIBLIOGRAPHY.—Cairnes, J. E.: *The Slave Power* (London, 1863, 2d ed. enl., London, 1863); DeBow, J. D. B. (ed.): *The Industrial Resources, etc., of the Southern and Western States* (New Orleans, 1852-3); Fitzhugh, George: *Sociology for the South, or the Failure of Free Society* (Richmond, 1854); Goodloe, D. R.: *Inquiry Into the Causes Which Have Retarded the Accumulation of Wealth and Increase of Population in the Southern States* (Washington, 1846); Helper, H. R.: *The Impending Crisis of the South* (New York, 1857); Loria, Achille: *La Constitutione Economical Odierno* (Turin, 1899); Olmsted, F. L.: *A Journey in the Seaboard Slave States* (New York, 1856); Phillips, Ulrich B. (ed.): *Plantation and Frontier Documents* (Cleveland, Ohio, 1909); "The Economic Cost of Slaveholding in the Cotton Belt" (in the *Political Science Quarterly*, 1905); "The Slave Labor Problem in the Charlestown District" (in *ibid.*, 1907); *The Pro-Slavery Argument* (Charlestown, 1852); Weston, G. M.: *The Progress of Slavery in the United States* (Washington, 1857).

ULRICH B. PHILLIPS,
Professor of History, Tulane University, New Orleans, La.

THE ECONOMICS OF THE SLAVE TRADE, FOREIGN AND DOMESTIC.

A DIFFERENCE between serfdom and slavery is that in the former there is no regular agency for the distribution of labor, while in the latter there is neces-

sarily a system of labor exchange. Serfdom was a mediæval institution for controlling labor in a society almost devoid of money and desirous of checking its own retrogression in the arts and comforts of life. The American slave-labor régime was developed, under a money economy, to enable European settlers and capitalists to exploit American resources with the aid of African labor. Any fixing of laborers to the soil as in serfdom, would have hindered the purpose in America. Success in the early task of conquering the wilderness and developing the varied opportunities required that those who controlled labor should be able to carry it from district to district, change it from occupation to occupation, and transfer it at will to fresh employers. Accordingly, in the colonial régime, which was inherited and further elaborated by the antebellum South, the laboring force was organized for quick response to either the regional or occupational call of industrial opportunity. By reason of the slave-labor system the expansion of settlement in the South was actually far more rapid than in the North; and the development of new industries for which the régime was suited, cotton and sugar production for example, was accomplished with great speed. This mobility of labor was secured in part by the migration of planters and their shifting the employment of their slaves from staple to staple or from agriculture to handicrafts as the case might be. In very considerable part also it was attained through the services of the slave trade.

The slave market was in a sense the prototype of the more modern employment bureau, but its operations and their economic bearings were considerably more intricate. The earnings of the slave traders were sometimes in the form of commissions, but usually in the form of profits. In the foreign

branch of the trade the expenses of transportation and sustenance were heavy and the risk of loss considerable, but the first cost of the slave cargoes in Africa was so slight (ranging from a string of beads to a hundred gallons of rum per head), that in general there was a fairly steady opportunity for very substantial profits. The price of prime youths from Africa rose by gradual stages from about £15 sterling per head in 1660 to about £50 in 1770, and thence to about $500 in 1807. In the Spanish, French, and Portuguese colonies the prices were similar, and the volume of the trans-Atlantic trade was enormous.* In the domestic trade the expenses were lighter and the transactions were more rapidly completed, but the difference between prices in the slave-selling and the slave-buying areas fluctuated so actively that at times the margin of profit upon which the trader had counted was completely wiped out before the completion of his southwestern journey, and he had to sell at a sacrifice or march his coffle back to Virginia. Furthermore, the volume of the inter-state traffic was probably far smaller than that of the foreign slave trade in its heyday. On the whole, numerous traders accumulated fortunes in the business, the larger number of them by far, it would seem, in the foreign branch.

A significant news item is the following, written by a correspondent at Charleston, S. C., and published in the Boston *Chronicle*, March 27, 1769: "A calculation having been made of the amount of purchase money of slaves expected here the present year, it is computed at £270,000 sterling, which sum will by that means be drained off from this province." Every importation from any distant quarter, whether Africa, Connecticut, or Virginia, involved

*For this see *The South in the Building of the Nation*, IV, 211, 223.

an exportation from the community concerned of money or produce or the incurring of debt, to the amount of the slaves' market value. It tended also to put the community upon the slave-labor basis and to discourage the immigration of wage-earning whites. Instead of being able to hire laborers of assorted talents at reasonable wages to be paid from current earnings, the community became almost utterly dependent upon crude labor bought for life-time and paid for from permanent capital at a capitalized, fluctuating, and oftentimes inordinate, valuation. The prevalence of banking and commercial credits,* with their liability to recurrent expansion and contraction, tended to increase the frequency and degree of slave-price fluctuations and to increase the evils of using capitalized labor in competitive industry.

The range of slave prices at various times and places in the ante-bellum South may be gathered from the accompanying table, which has been made

AVERAGE PRICES OF PRIME FIELD HANDS

(Young slave men, able-bodied but unskilled)

	1800	1808	1813	1818	1828	1837	1843	1848	1853	1856	1860
	$	$	$	$	$	$	$	$	$	$	$
Washington, Richmond, and Norfolk	350	500	400	700	....	900	....	....	1,250	1,300	....
Charleston, S. C.	500	550	450	850	450	1,200	500	700	900	....	1,200
Louisville, Ky.	400	....	550	800	500	1,200	....	....	....	1,000	1,400
Middle Georgia	450	650	450	1,000	700	1,300	600	900	1,200	....	1,800
Montgomery, Ala.	....	....	....	800	600	1,200	650	800	....	....	1,600
New Orleans, La.	500	600	....	1,000	700	1,300	600	900	1,250	1,500	1,800

after extensive research by the present writer among the archives in the vicinities indicated. The prices given in the table are average prices of "prime field hands," or able-bodied young male slaves of no special training. The averages are only

*See article, "Agricultural Credit and Crop Mortgages."

approximate; but they are sufficiently positive to demonstrate, among other things, that the differences in slave prices from period to period were much wider than those at different places in the same year. That is to say, the régime not only gave opportunities for slave trading from region to region, but it promoted speculation in slaves by planters as well as by slave traders. It, in fact, involved most owners of slaves, willy nilly, in a more or less speculative commerce in slave property. One serious limitation of the general system in this connection was that it could not normally supply labor for short periods. Its commodity was life-time labor, and its units were not easily divisible. Many slaves, it is true, were hired out by their owners, but the necessity of red-tape to provide for the liability of lessor or lessee in case of the death, flight, or incapacity of the slaves during the term of lease hampered such recourse. The extensive hiring of slaves which actually prevailed was a demonstration of the slave trade's limitations as a labor distribution agency. Employers with large capital, it is true, might buy slaves with a view to their temporary employment and their sale at the end of it. But in view of the oscillations in slave prices, the slave-trading risks assumed in such cases would dwarf the industrial earnings. The régime put a premium upon permanence and steadiness of employment. At the same time, it put a premium upon the readiness of masters to sell slaves whenever their market value was greater than the prospective industrial value of their labor. The stigma which society put upon slave trading appears in the light of this to have been uneconomic; but the conservatism which it promoted tended to mitigate the fevers of slave speculation.

Among the positive economic effects of the domes-

tic branch of the slave trade were the following: It made a passive laboring population extremely mobile, and carried the negroes into the districts where since the abolition of slavery they have sluggishly remained. The current of the trade flowed southwestward and westward from Virginia and the Carolinas.* It transferred many slaves to severer task masters, and many to masters who could and did provide them with better food, clothing and shelter—that is, it increased the vigor and efficiency of slave labor. It drained earnings out of the developing districts for the benefit of the older communities where industry was decadent, and thereby made it to the interest of the border states to maintain the institution of slavery. On the whole the slave trade was inseparably a part of the slave-labor régime as it actually prevailed, and the problems of the economic value and vice of the slave trade cannot be divorced from the economic problem of slavery in general nor from the question whether the negroes were fit for industrial and legal freedom in the American community.

BIBLIOGRAPHY.—Ball, Charles: *Narrative of Life and Adventures* (Philadelphia, 1854); Ballagh, J. C.: *A History of Slavery in Virginia* (Baltimore, 1902); Blake, W. O.: *History of Slavery and the Slave Trade* (Columbus, Ohio, 1858); Buxton, T. F.: *The African Slave Trade and its Remedy* (London, 1840); Carey, H. C.: *The Slave Trade, Domestic and Foreign* (Philadelphia, 1856); Chambers, William: *Things as they are in America* (London, 1854); Collins, W. H.: *The Domestic Slave-Trade of the Southern States* (New York, 1894); DeBow, J. D. B. (ed.): *The Industrial Resources, etc., of the Southern and Western States* (New Orleans, 1852-3); DuBois, W. E. B.: *The Suppression of the African Slave-Trade to the United States* (New York, 1896); Phillips, Ulrich B. (ed.): *Plantation and Frontier Documents* (Cleveland, Ohio, 1909).

ULRICH B. PHILLIPS,
Professor of History, Tulane University, New Orleans, La.

*For the volume of the domestic trade see *The South in the Building of the Nation*, IV, 219–223.

CONVICT AND APPRENTICE LABOR IN THE SOUTH.

Convict labor appeared in the South almost simultaneously with the founding of the first English colony. The series of regulations promulgated in 1610 for the Jamestown settlers and incorrectly called "Dale's Laws," stipulated service in the galleys for numerous petty offences. A few years later we find a penalty of "three years' slavery" for the breaking of one of Samuel Argoll's edicts, and for failure to attend church a person was condemned "to be a slave the week following, second offence a month, third offence a year and a day." Beginning in 1619, the number of convict laborers in the colonies was greatly increased through the home government's policy of deporting petty criminals to America. The convicts were usually sold to the planters for a term of seven years, thus gaining the name of "seven-year passengers," and their importation continued throughout the colonial period. Virginia abolished penal servitude for offences against the colony in 1643, but in 1672 she virtually restored it by enacting that vagrants and dissolute persons should be dealt with according to the laws of England. The offences of indentured servants were frequently punished by additional servitude to the master or to the colony.

Maryland in 1715 required all convicted criminals to pay the cost of their trials, either by labor or out of their estates; and in 1654 thieves were required to restore fourfold by payment from their own property, or lacking this, by servitude. The French in Louisiana in 1718 employed convicts in clearing off the site for the settlement at New Orleans.

Throughout the Eighteenth century enforced la-

bor was by no means the commonest method of punishment for crime. According to the earliest criminal law of the state of Kentucky, twenty-six offences were punishable by death, and minor offences were punishable by confinement in the county jails, fines, burning in the hand, ducking, the pillory, or the whipping-post. The same conditions then obtained in all the states, and as late as 1807 a law of the Mississippi Territory required every county to erect a jail, pillory, whipping-post, and stocks. But more humane methods were even then being adopted. Virginia established a penitentiary system in 1796, Kentucky in 1798, Maryland in 1811, Georgia in 1816, Tennessee about 1822, Louisiana in 1834, and Alabama in 1839. At the outbreak of the War of Secession, however, the Carolinas still employed a penal system more appropriate to the colonial era.

As slaves were rarely and but temporarily imprisoned, the prison population of the ante-bellum South was small, and the convicts were at first employed within the walls in manufacturing on state account. The leading forms of prison labor were carpentry, smithing, wheel-making, cooperage, shoemaking, and stone-cutting. A Georgia law of 1816 provided that the labor should be " of the hardest and most servile kind, in which the work is least likely to be spoiled by ignorance, neglect or obstinacy, and where the materials are not easily embezzled or destroyed." Whatever idea of reforming the criminals may have actuated the founders of these various institutions, it is certain that the legislatures were soon committed to the policy of making the penitentiaries first of all self-sustaining. In Kentucky in 1810 a law was passed declaring that thereafter no money should be drawn from the treasury for the support of the convicts, and as a result, the penitentiary, when ably managed, yielded a

handsome revenue, but when poorly managed, the condition of the inmates was truly deplorable. In 1817 the board of directors of the Virginia penitentiary declared that the institution was "like a great workshop," and that "the principal object of all punishment, the prevention of future offences, is abandoned." The profits of the prison for this year were $13,303. In 1846 the Mississippi prison, with 89 convicts, lacked $884 of supporting itself; the Maryland prison, with a population of 287, yielded a revenue of $1,220; and the Kentucky prison, with 166 inmates, a profit of $10,962. Alabama, after a few years' experience, found the penitentiary a burden on the treasury, and from 1846 to 1862 resorted to the lease system. Kentucky followed her example in 1856.

It is a difficult matter to obtain information concerning the discipline of the convicts in this period. Virginia at one time made the experiment of solitary confinement without labor, but, as elsewhere, this plan failed and was abandoned. Dorothea Dix, the great reformer, and an impartial critic, declared that the management of the convicts at Richmond, Washington and Baltimore was good, and that the punishments, according to numbers, were less at these places than at Sing Sing.

Apprentice labor appeared in the colonies almost contemporaneously with convict labor, the London Company introducing into Virginia the system then common in England. Large numbers of poor children were apprenticed to the company on easy terms. Apprenticeship came to be regulated by colonial laws, which in their general features still remain on the statute-books of many Southern states. Parents, trustees, and guardians had the right to bind out children, and the justices of the peace also in the case of orphans, neglected and illegitimate

children, and children of confirmed criminals. The person to whom the apprentice was bound had to agree to furnish him with clothes and food, to teach him a trade or business, and also, if the apprentice were white, teach him to read, write, and cipher. Some states, Georgia for example, stipulated that the master might use the same force to exact obedience that a father used with his child. Others, like Louisiana, forbade the use of the whip. Virginia allowed minors fourteen years of age and over to bind out themselves, and Georgia and Louisiana permitted persons who had attained their majority to bind out themselves for terms not exceeding five years. The term of service of a minor usually expired when the apprentice became twenty-one years old if a male, and sixteen or eighteen years old if a female.

Along with this publicly-regulated system, the various trades began to develop their own rules, and early in the Nineteenth century sought to determine all questions affecting apprentices, so far as each trade was concerned, through their unions. The Southern states, not being an industrial group, were little affected by this movement; but it is interesting to note that the Typographical Society of New Orleans in 1839 was the first union to limit the number of apprentices to be employed in the printing trade, and thereby set an example which other organizations followed until it became a fixed policy of the International Typographical Union.

BIBLIOGRAPHY.—For accounts of early convict labor, consult the *Report* of the United States Commissioner of Labor for 1886; Ballagh, J. C.: *White Servitude in the Colony of Virginia* (Baltimore, 1895); Dix, Dorothea: *Remarks on Prison Discipline in the United States* (Boston, 1845); Sneed, William C.: *History and Management of the Kentucky Penitentiary* (1860); *Report on the Penitentiary System of the United States*, by the Society for the Prevention of Pauperism (New York, 1822); the *Special Report on Prisons and Prison Discipline*, by the Massachusetts Board of State Charities (1865); the *Reports* of the National Prison Association; and the

Proceedings of the National Conference for Charities and Correction. On the subject of apprenticed labor, consult J. C. Ballagh's monograph cited above; McCormac, E. L.: *White Servitude in Maryland (Johns Hopkins Univ. Studies,* XXII, iii-iv, Baltimore, 1904); and Motley, J. M.: *Apprenticeship in American Trades Unions* (in *Johns Hopkins University Studies in Historical and Political Science,* XXV, xi-xii).

WILLIAM O. SCROGGS,
Assistant Professor of History, Louisiana State University.

FREE CONTRACT LABOR IN THE ANTE-BELLUM SOUTH.

Free Negro Labor.—The census of 1790 returned, in round numbers, 700,000 slaves in the United States, and 60,000 free negroes. In 1860 there were 3,950,000 slaves and 488,000 free negroes. Of the latter, 251,000 lived in the slaveholding states and 237,000 in various other parts of the country. The general economic importance of the free group was nowhere great, but its own economic status was better in the South than elsewhere. The free negro was in the letter of the law about as severely discriminated against in one section as in the other, but there was greater economic tolerance of him in fact in the slave states than in the free. This was the natural consequence of a greater degree of familiarity with his race and color on the part of Southern white people, and because of the fact that, from the beginning of the chapter down to the present day, the Southern white man has exercised the personal privilege of disregarding the letter of the law in all matters which concerned the negro and himself. We thus find the free negro property holder and artisan in all the Southern states, particularly in Louisiana, South Carolina, North Carolina, Virginia, and Maryland.

These people followed the occupations of carpenter, mason, contractor, fisherman, ship caulker, barber, and trader, throughout the South, in the face of prohibitive legislation, and held both slaves and real estate, either directly or by evasion, regardless of the written laws to the contrary. As early as 1836, in the city of New Orleans, 855 free people of color paid taxes on property assessed at $2,462,470 and owned 620 slaves. The value of the real estate and slaves held by Louisiana free negroes in 1860 has been variously estimated at from ten to fifteen millions of dollars. The census of 1850 showed that this class followed nearly every occupation in Louisiana which the negro follows to-day, and the list included 244 planters and 25 overseers. In Baltimore, in 1859, 348 free negroes owned $449,000 worth of property. In three outlying Maryland counties 221 free negroes held $120,000 worth. In the little town of New Berne, North Carolina, while the war was still in progress, 305 free negroes were reported to have incomes aggregating more than $150,000 annually. In 1860, in Charleston, South Carolina, 347 free negroes owned 333 slaves and paid taxes on $655,875 worth of real estate.

The stereotyped phrase which introduces most modern discussions of what the negro has accomplished since his freedom, is that the race "began life in 1865 without a dollar, and has earned all its present wealth since emancipation opened to it wider fields of opportunity and larger avenues for the exercise of talents which slavery obscured but could not destroy." This may sound well, as part of a period in a rhapsody, but it does not follow the facts. Beyond question, the average economic status of the free negro was low. Many of them were as degraded and worthless as contemporary descriptions allege. But thousands of them fared as well as their

descendants fare to-day,—and other thousands had trades and small business establishments, or followed other higher than menial pursuits. And in Louisiana there were free people of color whose individual wealth was as great as that of any American negro to-day. It is hazarding nothing to say that the aggregate property holdings of Southern free negroes at the outbreak of the war amounted certainly to as much as twenty-five millions of dollars. It is altogether possible that it was much more.

Between those who wish to make the achievements of the negro since emancipation appear little short of miraculous, and those who would minimize what the free negro accomplished during ante-bellum times, the truth has fared rather badly. The dead literalness of ancient restrictive laws has been invoked by the uninformed to prove that the free negro could not possibly have accumulated anything. It would be as sensible to marshal the statutes of a state against murder, as proof of the freedom of that state from capital crimes. Let us consider some of the means by which the wealth which we have mentioned was acquired. Let us inquire what avenues of employment were really open to the free negro, instead of accepting without question the tradition that every door was closed in his face.

The truth is that the free negro, whether of exceptional or only average capacity, found in the ante-bellum South a field for such measure of energy and talent as he possessed, just as he does in the South of to-day. The white people of this section may be open to various charges as regards their dealings with the other race, but they have not yet been successfully accused of refusing to let the negro work. I question if the variety of gainful occupations followed by the negro since the war is greater than the number open to the free negro before 1861. With

the exception of the professions and a few higher forms of business enterprise, this is certainly true. One of the first plants in the South for making gin and mill machinery was owned and operated in South Carolina by two free mulattoes. One of the wealthiest saloon keepers in ante-bellum Georgia was a free man of color. One of the most successful contractors and bridge builders in Alabama was a free negro, who was placed on a legal footing with his white competitors by a special act of the legislature of his state. Some of the most enterprising and fearless owners and navigators of small trading and carrying craft on the coastal waters of North Carolina, Virginia, and Maryland belonged to the "worthless free negro" class. At least one North Carolina free negro operated a boat-building plant, and employed white as well as colored labor. The list of the really large planters of Louisiana would not be complete without the names of several free persons of color. Nor were the professions wholly unrepresented, for in 1859 certain citizens of Atlanta memorialized the city council against tolerating the presence of a negro dentist,—and some half-dozen colored physicians practiced medicine in Louisiana in 1850.

It may be argued that all these were exceptional cases. But it is always the exceptional man whose record is preserved. Few people thought it worth while to comment on the great number of free contract laborers,—mechanics, masons, blacksmiths, shoemakers, saddlers, etc.,—who lived industrious lives, accumulated more or less of property, and enjoyed, as a mere matter of course, the friendship and esteem of the white community. We need not overestimate the importance of the free negro group, but it is idle to deny it some part in Southern economic life. Meagre as the available information is, it is quite suffi-

cient to establish the fact that shiftlessness and vagabondage could not be charged against all negroes who were free. The census of 1850 showed that in the city of New Orleans one in every eleven of the free colored population was employed in some pursuit requiring both intelligence and education. The total list of occupations in Louisiana was about as comprehensive as it could have been for the white race. It embraced architects, bakers, barbers, barkeepers, blacksmiths, boatmen, bookbinders, brickmakers, brokers, butchers, cabinet makers, capitalists, carmen, carpenters, cigar makers, clerks, clothiers, collectors, coopers, doctors, engineers, farmers, gunsmiths, jewellers, lithographers, mariners, masons, mechanics, merchants, ministers, musicians, music teachers, overseers, painters, pedlars, pilots, planters, sailmakers, ship carpenters, shoemakers, stevedores, stewards, students, tailors, teachers, and upholsterers. In a list of the occupations of free negroes in Richmond county, Georgia, in 1819, we find those of boating, carpenter, sewing, boat caulker, barber, saddler, steamboat pilot, rafting, drayman, wagoning, gardening, weaving, marketing, blacksmith, farmer, planter, spinning, harness maker, and millwright.

We have no means of knowing the number of free negroes who bought their freedom from their masters, by following their trades and making payments through a series of months or years. But the indirect evidence is sufficient to show that there must have been several thousand who did so. It should be borne in mind that every such purchase represented the actual accumulation of a surplus over living expenses, of a sum varying from four or five hundred to fifteen or eighteen hundred dollars. In the way of indirect evidence of the economic importance of free negro contract labor, we should not overlook the very

laws which are cited as proof of the degraded status of that class. There would scarcely have been colonial legislation prohibiting free negroes from following the occupations of boating, fishing, vending, etc., unless such persons were to some extent engaged in those pursuits. Frequently, if not always, the animus behind such legislation was furnished by white men who wished to get rid of negro competition. Thus we find at a later period, in fact down to 1861, numerous instances of white carpenters and masons petitioning legislatures and city councils against permitting the employing of their free colored competitors. The proof is conclusive that even where such legislation was enacted, it was almost wholly disregarded. The Southern white man, whether planter or contractor, in such matters did not submit to dictation, and wherever the competent free negro offered his services for hire, there he found employment.

*White Contract Labor.**—This mention of competition between free negro and white contract labor suggests consideration of the status of the latter class. Southern history, as told by Southern people, may be full of myths and ill-founded traditions; but, as it has thus far been written by historians of other sections, it is replete with interpretations and conclusions almost fantastic and apparent efforts of the imagination. Not the least of these absurd historical crystallizations is that which makes of the nonslaveholding Southern white man a being but little less than a political nonentity, an economic cypher and a social outcast. The ante-bellum school of economists and historians mixed common sense and ethics, and obtained the deduction that it was "a moral impossibility," to quote Cairnes, for slave and free labor to exist in the same community. They

*For additional information see article "Convict and Apprenticed Labor."

knew that slave labor did exist in the South,—ergo, free labor did not exist there. This was a quite simple method of arriving at a pleasant and satisfactory conclusion. Many modern writers on ante-bellum Southern conditions have followed the beaten path laid down by their predecessors,—whose position was based upon what "must have been true," as a matter of ethical theorizing. It was not for them to waste time in a search for contradictory facts.

The elementary fallacy of such writing is in treating the geographic unit which we vaguely designate "the South" as if it were characterized by absolutely uniform conditions throughout its length and breadth. "Southern slavery" is discussed as if it covered the entire section as a blanket covers a bed. Yet the easily ascertained truth is the reverse. In that portion of the South embracing the territory extending from the Pennsylvania line, in an almost unbroken reach to the Mississippi River on the western border of Tennessee, to the Gulf of Mexico in Alabama, and to the Atlantic Ocean in Georgia, negroes were in 1850 only about nine per cent. of the population. This great region was approximately 200 miles wide and 400 in length. It contained some 75,000 square miles—say 13,000 more than all New England. It contained in 1850 one million white people, as against but one hundred thousand negroes. It included forty-eight counties in Virginia, thirty-three in Tennessee, twenty-two in Kentucky, sixteen in North Carolina, thirteen in Georgia, and nine in Alabama, a total of 141 counties, the population of which was at least as much as 90 per cent. white.

If the Southern white man was as lazy as he is charged with having been, and "the South" as helplessly dependent on slave labor as it is commonly alleged to have been, here at least was a region in which some white men must have worked with their

hands. In truth, in this great area the negro was practically a negligible figure, and most of the work was done by white people. What this was, how much it amounted to in the sum total of Southern labor, we are not prepared to say. But that it was much, the presence of a million white people who took care of themselves abundantly proves. And this takes no account of numerous other smaller scattered areas in the South, in which the population was strongly white.

It is not possible to separate the Southern white population into distinct groups and sift from each those which might properly come within a consideration of "contract labor." The most that may be done safely is to take a more general view of what may be called the white laboring population as a whole, with a glance at some of its elements. The census of 1850 furnishes some suggestive figures for such a purpose,—figures which an analysis of the returns of almost any ante-bellum census will substantiate. In 1850 the whites of the slaveholding states numbered 6,222,418. The total number of persons holding slaves was 347,525, which was reckoned to represent some two million people who stood in the relation of slaveholders. Taking outside figures, not more than one-third of the South's white population had any personal interest in, or was in any way economically dependent upon, the labor of slaves. This means, in effect, that ten years before the outbreak of the war there were more than four million Southern whites who were in the class of people who "worked with their hands,"—either independently, for themselves, or under some form of contractual relation with others. If we allow six persons to the family, and the number was then put at 5.7, the South had more than 660,000 non-slaveholding families. Placing the number of breadwin-

ners as low as two to the family, we have considerably more than one and a quarter millions of Southern whites engaged in earning a living by some form of manual labor.

But such figures fail to indicate the actual number of white people either wholly or in part independent of slave labor, through reliance on white labor, their own or hired. There were very many more slaveholders who worked side by side with their slaves, or hired other white labor to do so, than there were slaveholders dependent on slave labor alone. In 1850 there were only 1,479 holders of between one hundred and two hundred slaves each. There were 68,820 who owned but one slave each. There were only 6,196 owners of from 50 to 100 slaves,—as against 105,683 persons who held less than five slaves each. All told, there were 255,268 slaveholders who owned fewer than ten slaves each. In the main, these holders belonged to the class of smaller farmers, hundreds of whom worked just as hard as their slaves, and frequently hired white "contract labor" to assist them at some stage of the crop. They represented at least 1,500,000 persons in families, and in thousands of cases the only slave held was a domestic servant,—the entire farmwork being done by white labor.

Slavery and the larger slaveholder have played so prominent a part in Southern affairs, that the world has all but ignored the non-slaveholder and the man who owned but a handful. Justice has never been done this portion of the South's population, and it is all but too late now to realize the actual part which they played in the South's economic life. We know that some four millions of Southern white people, taking the figures of 1850, were not interested in slaveholding directly at all; that about 1,500,000 more were interested to the extent of less than ten

slaves to the family; that only some 500,000 persons were interested in more than ten. We know also that at the same time more than 160,000 Southern whites were employed as contract laborers in some form of manufactures. We know, further, that the historical tradition which has made the negro the sole producer of the great staple crops of the South, is entitled to just the same credence as that other myth which makes every Southern slaveholder the proprietor of a vast estate, peopled with hundreds of slaves. The Southern white man grew cotton with his own hands in every state in which the negro grew it; he grew tobacco wherever the negro grew it; he grew all the cereals; he raised cattle and hogs. In city and country he worked side by side with the negro, often literally as well as figuratively, at whatever work there was to do. He labored for hire on steamboats, in saw and planing mills, in foundries and machine shops. He operated locomotives and stationary engines, worked as a blacksmith and wheelwright, and was not above shoeing a horse or sharpening a plow. He erected buildings and constructed bridges. He was a paper hanger, plasterer, and painter. Further than this, time and again, white labor was employed under contract in drainage, reclamation and construction work which was considered too unhealthful to justify risking the lives of slaves.

In short, there has been no work done in the South by the negro, slave or free, from 1607 to 1910, which has not been shared by the white man. It should be a source of mortification to the white people of this section that they know so little of what their own laborers have done in creating Southern wealth.

Bibliography.—Ballagh, J. C.: *A History of Slavery in Virginia* (*Johns Hopkins Univ. Studies*, Extra Volume XXIV, Baltimore, 1902); Bassett, J. S.: *History of Slavery in North Carolina* (*Johns Hopkins Univ. Studies*, XVII, vii-viii, Baltimore, 1899); Brackett,

J. R.: *The Negro in Maryland* (*Ibid.*, Extra Volume VI, Baltimore, 1889); DeBow, J. D. B. (ed.): *The Industrial Resources, etc., of the Southern and Western States* (4 vols., New Orleans, 1852-53); Olmsted, F. L.: *A Journey in the Seaboard Slave States* (2 vols., New York, 1904); Phillips, U. B. (ed.): *A Documentary History of American Industrial Society* (Vols. I and II, Cleveland, O., 1910); Stone, A. H.: "Some Problems of Southern Economic History" (*American Hist. Review*, July, 1908); Statutes and Codes of various Southern States, before 1861; U. S. Census *Reports*, particularly a Compendium of the Seventh Census (Washington, 1854); Special investigations into the economic condition of free negroes in the South, made under direction of Alfred H. Stone, reports of which are in his hands.

ALFRED HOLT STONE,
Author of Studies in the American Race Problem, etc.

LABOR ORGANIZATIONS IN THE SOUTH.

THE history of American trade unionism begins in the first decade of the Nineteenth century, when associations of workingmen in the printing, shoe making, hatting, and ship building trades were organized in all the larger cities. There is every reason to believe that this movement was as strong in Baltimore as in New York or Philadelphia. The Baltimore Typographical Society was probably one of the first trade unions in the United States. On June 28, 1803, this society sent to a similar organization in Philadelphia a resolution "for drafting an address to parents and guardians to prevent their placing so many boys as apprentices to the printing business."

The movement in Baltimore was by no means confined to the printers. Associations were formed prior to 1812 among the rope makers, the bricklayers, the hatters, the ship carpenters, the bookbinders, the painters, and the house carpenters. How far these societies were beneficiary and how far trade-regulating in purpose has not been determined. The most

interesting of these associations was the Journeymen Cordwainers Society of Baltimore, which was organized in 1806, and in 1809 numbered 270 members. In the latter year certain members of the society were brought to trial for criminally conspiring to compel their employers to discharge journeymen not members of the society. One of the cordwainers was found guilty, but does not appear to have been sentenced. The case attracted considerable attention and the Republican newspapers sought to point a political moral by insisting that the lawyers and business men, who were largely Federalists, were attempting by invoking the English common law doctrine of conspiracy to undermine the liberties of the people. The case was probably the first attempt in the South to repress labor combinations by court proceedings.

The early movement extended also to other Southern cities. From a passage in the extant minutes of the Philadelphia Typographical Society we know that there existed in 1810 a printers' society in New Orleans, and in 1815 the Columbia Typographical Society was organized in Washington.

The second great trade union movement in the United States began about 1830 and its influence was strongly felt in Washington and Baltimore, and to a less degree in other Southern cities. A central trade union was organized in Washington and a labor paper, known as the *Washingtonian,* was published for a time. From 1830 to 1836 local unions of printers were formed in New Orleans; Baltimore; Richmond; Natchez; Charleston; Nashville; Mobile; Augusta, Georgia; and Columbia, South Carolina: from 1836 to 1840 in Lexington, Kentucky; Louisville; Vicksburg; Frankfort, Kentucky; Tallahassee, and Jackson. In fact, there seems no reason to believe that at this time the printers were less strongly or-

ganized in the South than in the North. How far the workmen in other trades participated in the movement cannot be fully determined, but it appears likely that outside of Baltimore and Washington, the printers were almost the only organized trade in the South.

By 1830 the economic life of the South had developed its characteristic qualities. In general these were: predominance of agriculture, use of slave labor, and small urban population. This environment was distinctly unfavorable to the growth of trade unions, and except in the border cities where the economic life was more like that of the North trade unions were sporadic and unimportant.

BIBLIOGRAPHY.—Barnett, G. E.: *The Printers: A Study in American Trade Unionism* (Publs. Amer. Econ. Assoc., New York, October, 1909); Ely, R. T.: *The Labor Movement in America* (New York, 1905); Glocker, T. W.: *Trade Unionism in Baltimore before the War of 1812* (J. H. Univ. Circular, April, 1907). Phillips, U. B. (ed.) *A Documentary History of American Industrial Society* (Vol. II, Cleveland, 1909); Stewart, Ethelbert: *Documentary History of the Early Organizations of Printers* (*Bulletin*, Bureau of Labor, November, 1905).

GEORGE E. BARNETT,
Associate Professor of Political Economy, Johns Hopkins University.

THE LABOR FORCE AND LABOR CONDITIONS, 1861-1865.

A YEAR before the Civil War began the census showed that in the slave states there were about 1,000,000 whites, not counting landowners, who could be classed as out-door laborers, and about the same number of blacks. In the Confederate states, which did not include the four border slave states, the proportion of blacks to whites was larger. Agriculture and related occupations took the bulk of the labor,

while manufactures, mining, and other industries calling for skilled labor, were but comparatively little developed in 1860. The best workers, or rather the most productive, in 1860, were the negro slaves, who formed the principal labor force in the Black Belt, the most fertile region of the South embracing about one-third of the territory of the Confederate states. The wealth of the South was in the Black Belt; the cotton, the rice, and sugar crops were produced there; there the agricultural labor was highly trained and productive. On the other hand the bulk of the white population was thinly scattered over the hill and mountain country and in the pine-woods, over the poorer parts of the South—districts remote from the railroads and steamship lines. Here they cultivated small farms on the thin soil and produced little more than enough of anything for home consumption. In South Carolina, Georgia, Alabama, Mississippi, and Louisiana the agricultural products of the white counties scarcely affected the markets. In the other states the population of white laborers was larger.

The enlistment of soldiers in the Confederate army soon reduced the laboring force in the white districts; so many able bodied men entered the army in 1861 that the crops of that year could not be gathered. The labor force in the white districts from 1861 to 1865 consisted of men over fifty, young boys, women, and men of military age exempted because of physical weakness or wounds. These were unable to cultivate or to gather large enough crops to support the population, and much suffering resulted. Conditions grew worse from year to year and in each Confederate state the legislature annually voted large sums for the relief of soldiers' families.

In the Black Belt, where there were few white

laborers, the industrial system was not so much disorganized by the effects of war. The negroes worked on as before, perhaps, owing to the necessity for supplies, better than before. To take the place of the negroes drafted to work on fortifications and in the army more negro women and children were sent to the fields, thus decreasing the servant class. The white men of military age nearly all entered the army, but to take their places white women and boys on the borders of the Black Belt, went into the fields and worked, while frequently the planter's wife or daughter acted as overseer and conducted the plantation. After 1861 little cotton was produced, food crops almost exclusively being planted. In the Black Belt good crops were made every year. The negroes on the plantations fed and clothed the Confederate soldiers and the needy soldiers' families in the poorer regions.

Owing to the fact that manufacturing had not largely developed in the South there were in 1861 relatively few skilled laborers. But the blockade which cut off foreign trade forced the Southerners to develop industries, especially those producing supplies. Into these industries the skilled laborers, mostly white, were drafted, and other laborers were trained. In each Confederate state from five thousand to ten thousand men were at work in the cotton and woolen mills, tanneries, foundries, machine shops, arsenals, salt works, and at minor industries. The salt works in Alabama, for example, employed one thousand men, those in Virginia as many more. In the military industries at Selma, Alabama, six thousand skilled workmen of all grades were engaged. Richmond, Atlanta, Augusta, and Columbus (Georgia), were the chief industrial centres. Many new establishments were projected but failed because of the lack of skilled labor. In the factories

some white women and a few negroes were employed, but most of the workers were white men, usually exempts from military service, disabled soldiers, and men physically disabled—not a force of the highest efficiency. In 1864 about seventy-five thousand men, classed as skilled laborers, were reported as exempt from army service.

Another class of white men may be mentioned—non-producers—the deserters and the "tories." From 1863 onward large numbers of soldiers deserted and uniting with the "tories," or non-combatant Unionists, hid in remote districts or roamed about living upon the unprotected country. These people, about 30,000 in number in December, 1863, and about 80,000 fourteen months later, were not only non-producers, but through their depredations demoralized industry over large districts.

The Confederate military authorities made considerable use of negro laborers on fortifications, and in transportation. All along the Northern border, the Atlantic seaboard, and the Gulf coast negroes threw up the defensive earthworks. At Mobile, in 1864, 4,500 negroes were at one time at work, at Richmond twice as many, while at Charleston and Savannah large numbers were used from the beginning to the end of the war. The owners were seldom willing to send their slaves to work for the government and the authorities had to resort to impressment. The result was that slave owners frequently withdrew their negroes from the vicinity of military works and sent them into the interior.

Slavery as a labor system in the South largely disappeared before the end of the war and before the institution was legally abolished. However, it will be of interest to note the progress of legal emancipation in the various slave states. The confiscation acts of Congress, 1861-1865, aimed to confiscate all

slaves used by the Confederate forces or belonging to Confederate soldiers, and in 1864 and 1865 by act of Congress Union negro soldiers with their wives and children were emancipated. In 1862 Congress abolished slavery in the District of Columbia; in 1863 the Emancipation Proclamation declared free the slaves in the Confederate districts, and West Virginia began gradual emancipation; in 1864 Maryland, and in January, 1865, Missouri abolished slavery, leaving the institution legally existing only in Kentucky and Delaware of the Union states. The Thirteenth Amendment, late in 1865, legally ended slavery in the United States.

But as already stated slavery as a labor system was ended almost everywhere before the laws abolished that institution. This practical emancipation came as a result of war, for everywhere the Federal armies came the slave-labor system ceased to exist. By 1863 slavery had no practical existence in the Union slave states; war had brushed it out of existence and the negroes were roaming aimlessly about working when and where they pleased. The 800,000 negroes in the territory not affected by the Emancipation Proclamation were much freer than those who were supposed to be freed by that document. Along the Atlantic coast from Maryland to Florida where the Federals gained and held the ground the negroes flocked in and were organized by the War and Treasury Departments into labor colonies. The opening of the Mississippi and the Tennessee rivers, and the raids of Sherman, Banks, Butler, and Grierson into the interior, brought many thousand negroes into the Federal lines. Sherman brought out 10,000 negroes on one raid into Mississippi. Between Cairo, Illinois, and New Orleans on the banks of the Mississippi 700,000 negroes were practically under Federal control.

About 250,000 negro men went into the Federal army as soldiers or laborers. Thousands were gathered by the Federal authorities into colonies or camps beyond the Confederate lines and set to work as free laborers. When Lee surrendered in 1865 there were not more than 2,000,000 negroes remaining in slavery; the others had been freed by the operation of war. Many of them had gained from one to three years' experience as free laborers.

In summing up it may be repeated that: In the white districts the able-bodied men were enlisted in the army and no adequate labor force was again available. Of the relatively few skilled laborers available in the South most were whites and most of them were exempt from military service because not able to bear arms. In the Black Belt the slave-labor system was but little disturbed until the Federal armies came; wherever the Federal forces went the slave-labor system disappeared and industry was at a standstill; about one half of the negro slaves had some experience of freedom before the war ended.

BIBLIOGRAPHY.—Eaton, J.: *Grant, Lincoln and the Freedmen* (New York, 1907); Garner, J. W.: *Reconstruction in Mississippi* (New York, 1901); Fleming, W. L.: *Civil War and Reconstruction in Alabama* (New York, 1905); Schwab, J. C.: *The Confederate States of America* (New York, 1901); Smedes, S. D.: *A Southern Planter* (New York, 1887); Hague, P. A.: *A Blockaded Family* (Boston, 1894); Pearson, E. W. (ed.): *Letters from Port Royal* (Boston, 1906); *Official Records, Union and Confederate Armies* (Washington, D. C., 1889 —). The economic condition of the negroes under Federal control in the border states, along the Atlantic coast, and in the Mississippi Valley is described in the pamphlet material issued by the various Freedmen's Aid Societies and other organizations dealing with the freedmen, and in the newspapers and public documents of the time. The best collection of this pamphlet material is found in the Library of Congress.

WALTER L. FLEMING,
Professor of History, Louisiana State University.

AGRICULTURE.

CHARACTERISTIC METHODS OF SOUTHERN AGRICULTURAL PRODUCTION.

THE conspicuous and basal feature of Southern agriculture was the plantation system which rested upon large land grants, non-free labor (servitude or slavery), and staple export products. This broadly separated it from the agriculture of the North, which was based upon limited land grants, free labor, and food crops, chiefly cereals, designed for a home market. The element that became most important in the ante-bellum plantation economics of the South, slavery, was an evolution which followed the earlier development of the land and labor systems, but which so harmonized with them that these three elements tended each to extend the other and to fix the plantation system with its extensive methods as the dominant force in agriculture, irrespective of many free labor cereal-producing farms that existed in the hill and back country of the South.

Products, like non-free labor, had an adventitious and experimental development in the South. Tobacco had experimental trials in New England following 1641 as it had in Virginia from 1612 to 1616, by which time it had there supplanted cereals and silk grass as a profitable crop. Similarly, rice, indigo, and cotton passed through a stage of garden, or experimental, culture and became products dominant over food crops and other industries because of suitable local conditions, determined by climate, soil,

and topography, or because of government encouragement in bounties and the conditions of foreign demand. Though the hardy or highland grain crops, wheat, corn, oats, barley, etc., were a success at the South in the Piedmont and back regions, where they were placed under conditions similar to those that made them a success from the first at the North, the restriction of early settlement to tidewater and lowland areas made them a conspicuous failure where they came into actual competition with staple export crops, and they were relegated, where they continued on the plantation, to the position of supplementary products.

The profitable areas of Southern culture were thus devoted to expansive rather than to intensive crops such as were the rule in the North. Tobacco, rice, and indigo and later, sugar and cotton, were understood to require not only better and deeper soil than corn and the other cereals but a larger extent of it for profitable culture. Tobacco was thought to demand a minimum of fifty acres of arable land per negro, and as an overseer was dear unless he had twenty negroes under him, a thousand acres of arable land was necessary for the profitable use of capital in tobacco planting. This area was further increased by the need of timber land to furnish the casks and winter employment for the labor, and a cattle range was also needed for supplying provisions. The larger quantity of land demanded by these staples, their exhaustive effect upon the soil, and the fact that they tended to exclude other products, and therefore prevented a rotation of restorative crops, made the restoration of old lands by manures too costly where new land was abundant and cheap, and the area of cultivation was simply extended when desired to fresh lands of natural fertility.

The shifting arable land and the increasing plantation acreage made inclosures expensive, and they were generally abandoned or regarded as useless. The large tracts of uncultivated land and the distance of plantations from each other made an open range for cattle and swine possible, and they ran in herds of hundreds in the woods, with little general application of housing or feeding either in the summer or in the mild Southern winter. Each planter had "a right in the woods" which gave him his claim to a share in the promiscuous herds when his "marks" and "brands" failed to identify his livestock.* Many plantations were seated with reference to an extensive cattle range, and were designedly far apart, and as woodland and range became scarce with the lowland planters they acquired extensive grants for this purpose on the frontier. For many years the savannah and the woodland served the purpose of the Northern artificial meadow land so scarce at the South. The dispersion of cattle in this method prevented the accumulation of natural fertilizers that might have restored the worn-out lands, but no land scarcity existed to make this treatment a necessity.

The exhaustive culture of a single crop and the large methods applied to staples became the rule also on the land devoted to the supplementary plantation crops. Grain was cultivated successively on the same land for four or six years, when soil exhaustion required its abandonment for new land. Restorative crops, rest by fallow, and model rotations, such as had been adopted in the North from England and the Continent were practically unknown in the South, as they appeared unnecessary in plantation economy. George Washington was the first conspicuous Virginian after the colonial era to

*American Husbandry, I, 24, 231, 264-66; II, 15, 23.

advocate scientific agricultural methods. He was followed by Ruffin in Virginia, the organizers of the South Carolina Agricultural Society in South Carolina, and Tatham for Maryland; but there was no such general interest in improved foreign methods and books on husbandry, or adoption of better implements—such as the horse hoe, the drill plough, Scotch or American improved harrows, and of artificial fertilizers—which were more needed, and therefore more common, in the cereal-growing states of the North.

The impression made upon travellers by the scattered plantations, poor inclosures, the barren, grassless tracts, the worn-out lands, and the frontier clearings in the woods, that the Southern planter and farmer was impoverished or thriftless was more apparent than real, and was often dispelled when the planter showed his budget. But the system was exploitative and essentially wasteful as compared with the intensive farming and careful economies of the Pennsylvania, New York, and New England farmers. They had established a regular course of agriculture, with varied products, careful preparation and after-culture of the soil, permanent inclosures and buildings, and methods of conserving fertility and the natural resources like forests.

The expansive methods of the plantation particularly showed their wastefulness in the clearing of the timber land for arable purposes. Timber was made use of and accounted in paying the cost of clearing only when it was convenient to water transportation. Felled timber lay and rotted on the ground or was collected and burned while the stumps remained in the cultivated clearing. Girdling was a common method of clearing and the crop was planted in a standing forest of dead trees. Thus the slow and inefficient hand hoe culture was pro-

longed except in regions like Georgia, where the light soil permitted the grubbing up of stumps and the use of the plow. For a long time the primitive one-horse flook plow, which could be managed by a negro boy of twelve years of age, was in common use, and in soils not light nor loamy plowing was superficial and shallow, and where corn had been previously planted was not done at all, the wheat being scratched in on corn land by the wooden-tooth harrow. Where several different crops were cultivated the culture closely approximated the one crop system; there was exhaustive culture of each crop successively for a term of years, or the land was kept under continuous cultivation by crops belonging to different seasons, and in some cases several crops were planted at the same time on the same land. As many as five separate crops were sometimes raised on a single piece of land during a year. These methods of tillage destroyed fertility and required that the old land be abandoned and fresh land be cleared. It was estimated that seventy acres of fresh land were annually needed to run even a grain plantation. Many advocates of a better rotation of crops and of ameliorating and restorative methods appeared, but the absorption of the population in the profitable money export crops retarded not only the development and extension of cereal farming but postponed an advance in agricultural inventions and improvements in tillage.* Travellers in the South were constantly remarking on the opportunities of the "back country" and the great upland valleys, and urging a movement of population to these regions adapted to cereal and food products, but the adaptability of the negro to the low areas, and to staples, like tobacco, rice, sugar, and indigo, together with the problems of transportation, post-

*Tatham, *Agriculture*, 50-60; Sparks, J. *Writings of Washington*, XII, 283, 284.

poned any large movement in this direction until an impulse was received from cotton.*

With cheap labor and abundant fertile soil, the raising of expansive staples offered little necessary incentive to agricultural invention. Beyond the gin and cotton presses and their improvements and the few though important inventions due to rice and sugar culture, the range of invention and improvement was narrowed until the advance of the livestock industry and cereal farming made, together with cotton, greater demands on both the methods and facilities of production and transportation in the South. The canal, impracticable from the mountain barriers, was then supplanted by the railway for uniting the food-producing areas of the up-country and the trans-Allegheny regions to the Southern tidewater. The wood plow after 1825 gave way to the cast-iron plow, commercial fertilizers appeared, and grain threshers began to replace the primitive hand methods. The Scotch-Irish blacksmith McCown and Cyrus McCormack together perfected the sickle, and the reaper, which was to revolutionize farming in the West as well as in the South, received its first trial on the McCormack farm in Rockbridge county, in the Valley of Virginia. But not until after the war was the cradle and the scythe generally supplanted by this important invention.

Between 1840 and 1861 the worn-out tobacco lands and the overgrown negro population of Virginia and Maryland were driving the lowland planters to manumission of their slaves, and the economist George Tucker, of the University of Virginia, thought he foresaw the progressive emancipation of slaves for economic reasons in the Southern seaboard states. Whatever tendency existed toward a

*Chastellux, F. J., *Travels in North America*, II, 85, 150, 358; Smyth, *Travels*, I, 89, 94, 147; *American Farmer*, X, 834.

gradual transformation of the plantation system was checked by the intervention of the grave political issues of the time, and the agricultural development was little changed except in the expanding farming regions of the Upper South.

BIBLIOGRAPHY.—*American Husbandry* (2 vols., London, 1775); Anburey, T.: *Travels through America* (2 vols., London, 1789); Baldwin, Joseph G.: *The Flush Times of Alabama and Mississippi* (New York, 1854); Bruce, Philip A.: *The Economic History of Virginia in the Seventeenth Century* (2 vols., New York, 1896); Chastellux, F. J.: *Travels in North America* (2 vols., London, 1787); Drayton, John: *A View of South Carolina* (Charleston, 1802); Jefferson, T.: *Writings of* (ed. by P. L. Ford, 4 vols., New York, 1892); Kalm, Peter: *Travels Into North America* (3 vols., London, 1771); McCrady, Edward: *The History of South Carolina* (4 vols., New York, 1897-1902); Olmstead, F. L.: *Our Slave States* (Vol. I, London, 1856); *A Journey in the Back Country* (London, 1861); and *A Journey Through Texas* (New York, 1857); Smyth, J. F. D.: *A Tour in the United States of America* (2 vols., London, 1784); Sparks, Jared: *The Writings of Washington* (12 vols., Boston, 1858); Tatham, William (ed): *Agriculture and Commerce of America* (London, 1800); *The American Farmer* (14 vols., Baltimore, 1821-33); Tenth Census of the United States, *Agriculture,* (Washington, 1883); Tucker, George: *Progress of the United States* (New York, 1853); Weeden, W. B.: *Economic and Social History of New England* (2 vols., Boston, 1890).

JAMES CURTIS BALLAGH,

Associate Professor of American History, Johns Hopkins University.

TOBACCO CULTURE IN THE SOUTH.

To 1790.—Tobacco was first brought into Europe from the new world (the West Indies) by Spanish traders in the middle of the Sixteenth century. European tobacco markets, therefore, existed for fully half a century before permanent English settlements were made in America. It was first grown in English colonies at Jamestown, Virginia, in 1612. By 1616 tobacco had become Virginia's staple commercial crop, wheat and maize being grown only for home consumption. In 1620 production had reached

A VIRGINIA TOBACCO FIELD.

55,000 pounds, and at 54.75 cents per pound, brought the colonists $30,112. This was used in exchange for clothing and other wares with English merchants, who had been attracted to Virginia by the large tobacco traffic.

As the population grew and new settlements were made, the crop increased proportionately, not only in Virginia, but in Maryland and North Carolina as well. From the James River valley its cultivation was extended to the York, Rappahannock, and Potomac River settlements and then along the Chesapeake clearings in Maryland, and southwards into the Albemarle and Pamlico districts in North Carolina. The history of this progress may be seen in the table below.*

Indeed, the supply had grown so large that the colonists frequently suffered from over-production and subsequent low prices. These temporary depressions were a serious matter to Virginia and Maryland, where tobacco formed the only important, if not exclusive, commercial crop. The general downward trend of prices is shown in the table below.†

It is interesting to note the various means employed by the colonists to check this downward course of prices and avert depressions. An unsuccessful attempt was made through colonial assemblies to get the planters of Virginia, Maryland, and North Carolina to cease planting totally from Feb-

**Yearbook* (1908), Department of Agriculture, 681–689.

PRODUCTION OF LEAF TOBACCO IN AMERICAN COLONIES.

Year.	Pounds.	Year.	Pounds.	Year.	Pounds.	Year.	Pounds.
1618	20,000	1627	500,000	1688	29,147,000	1753	48,263,000
1619	40,000	1639	1,500,000	1691	36,000,000	1765	75,482,000
1620	55,000	1641	1,300,000	1706	28,858,000	1774	101,828,617
1621	60,000	1664	23,750,000	1745	38,230,000	1790	130,000,000

†Year.	Cents per pound.	Year.	Cents per pound.	Year.	Cents per pound.
1618	54.75	1647	6.08	1730	1.52
1620	54.75	1688	3.08	1744	4.06
1639	6.08	1703	2.03	1790	3.40

ruary, 1666, to February, 1667. Mutual suspicion frustrated this plan. The Virginia and Maryland assemblies frequently fixed the price of tobacco with a view of keeping prices up, and, to make doubly sure of a real increase in price, the price of other commodities was also fixed by statute. Another method resorted to was to limit by statute the maximum number of tobacco plants each planter could cultivate. Frequent depressions, however, had left the planters in such financial straits that the Virginia Assembly at last declared that all debts could be legally cancelled upon payment of 40 per cent. of the obligations in terms of tobacco, the price of which had already been fixed by law. Finally Parliament and the King attempted to induce the colonists to raise other crops. Flax, hemp, cotton, and silk were tried but each yielded an inadequate return.*

Despite such temporary depressions, tobacco was a profitable crop, and continued to maintain a leading position. The primary reason for its preference over other crops was the soil, a rich black mould, fertile and extensive. Captain John Smith said that a man's labor in tobacco cultivation was worth six times that in raising wheat. It was not alone the fertility of the soil, but the fact that tobacco required a less expenditure of energy and money, and had more value to bulk and weight than wheat. To clear the forests was a laborious and expensive task, and a few acres of tobacco land not only yielded better returns than a larger area devoted to wheat cultivation, but the transportation of tobacco to market was much cheaper for an equal bulk. The custom was to grow tobacco in virgin soil for from five to eight years, and then turn it into wheat or corn land.†

*Beverley, *History of Virginia*, Part II, Chap. 2, p. 233.
†*American Husbandry*, I, Chap. 15.

In colonial days, as tobacco plantations were usually situated along navigable streams, the crop was easy to handle. When grown in the interior it was packed in casks and rolled to the wharves.

Moreover, England's colonial policy favored the cultivation of tobacco. It was a crop which could not profitably be grown in the United Kingdom, and English statesmen were loath to see vast sums of silver leave the kingdom for Spanish tobacco. Hence, throughout the colonial period, England gave preference to colonial tobacco by levying a higher import tax on tobacco grown outside of her colonies.* It was a crop, moreover, which made possible the development of new trade for English merchants. Tobacco cultivation was forbidden in England and Ireland, thus guaranteeing a monopoly of the English tobacco market to the American tobacco planter. Wheat on the other hand, was placed among the "non-enumerated" articles which were forbidden to enter English ports. Because of the advantage secured by this preferential tariff, English statesmen had some justification for the restrictive features contained in the Navigation Acts, by which all colonial tobacco had to be shipped directly to England, though the restriction aroused much complaint, and was one of the economic causes cited for the Revolution.

When slave labor became available it was discovered that this superior organization of labor, and the existing extensive land system harmonized with the expansive land demands of a crop like tobacco. But it must not be inferred from this that the success of tobacco culture depended on negro slave labor. Throughout the Seventeenth century white non-free laborers outnumbered negro slaves. In 1671 there

Parliamentary History, 1196, 1197; Chalmers, *Political Annals*, 51.

were three white indented servants in Virginia to one negro slave in a total population of 40,000 persons.* It was a fortunate circumstance, however, that, as white indentured and free labor became scarce and expensive, cheap slave labor became more easily available, and the extension of tobacco cultivation from 1700 to 1865 became chiefly dependent upon cheap slave labor.

There can be no question but that slave labor was profitable in tobacco culture. According to *American Husbandry* in the latter half of the Eighteenth century the cost of maintaining a slave for one year was £3. The product of one slave was valued at £20, leaving £17 net profit on an original investment of £100, which included the cost of the slave and the necessary equipment, a net profit thus of 17 per cent. on the invested capital.† Especially was this true after this form of labor had become customary and white labor was no longer available.

There were three distinct types of tobacco grown and marketed in colonial days: sweet-scented (light weight), Orinoco (heavy weight leaf), and Pryor (a medium weight). The first two were grown on river bottom land. The first settlers at Jamestown adopted the Indians' method of planting the seed at regular intervals in the pulverized soil of a garden plot. The present method of transplanting was borrowed about the middle of the Seventeenth century from the English system of growing vegetables. From the Indians was learned also the usefulness of suckering the plant. Up to about 1670 the tobacco was prepared by piling the leaves in a heap and leaving it in the open air until cured. The process of hanging the leaves in a barn to be cured by the air or ventilation method came later, and it was not un-

*Hening, *Statutes at Large of Virginia*, II, 515.
†*American Husbandry*, I, 299, 233–34.

til the latter part of the Eighteenth century that artificial heat was used in curing the leaf.

Originally tobacco was put up for the market in rolls of 100 pounds. Then the cask or hogshead was introduced. These contained anywhere from 500 to 1,500 pounds. Tobacco was brought to the warehouse where it was weighed, inspected, and graded by a government official and the planter was given a tobacco receipt or a "tobacco note" as it was called. The planter then either sold this note to a tobacco merchant, or exchanged it for other commodities. These tobacco notes were legal tender and were honored freely anywhere in the colonies.

At the end of the colonial period tobacco had reached the high water mark of its importance. In 1790 it ranked second in value on the list of exports and amounted to $4,349,567, or 21½ per cent. of the total colonial exports ($20,000,000). It was exceeded only by flour, which was valued at $4,591,293. and in 1791 it exceeded flour as an export crop. Over one-half of the total Southern population of 1790 was either engaged in or depended on the cultivation of tobacco.

1790-1860.—Although in 1800 tobacco was still the leading Southern product, it was rapidly surrendering its supremacy to cotton. The effects of the embargo and the War of 1812 were disastrous to the tobacco planters. In 1806 our tobacco exports were 83,186 hogsheads; in 1808 they fell to 9,576 hogsheads.* In 1810, 84,134 hogsheads were exported, but in 1814 only 3,125 hogsheads. The indirect effect, however, was even more significant. When our European markets were cut off, the production of leaf tobacco was encouraged on the Continent and supplies were brought from Cuba, Columbia, and Su

**Special Report on Statistics of the Manufactures of Tobacco*, United States Census, 1880, 38.

matra. The fiscal policy of European nations also checked the cultivation of tobacco. To recoup themselves for the losses incurred by the Napoleanic wars high import taxes were levied on all articles of luxury, including tobacco. England raised her tax from 28 cents a pound to 75 cents a pound. As a result England's consumption was greatly curtailed.

The principal factor, however, operating against the progress of tobacco was the increasing profitableness and growing importance of cotton. Whitney's cotton gin and the power loom cheapened the manufacture of cotton goods and gave a tremendous stimulus to cotton cultivation. Southern capital—land and slaves—was diverted from tobacco to cotton plantations. Slaves and land had become too valuable to be used in the cultivation of tobacco. Indeed, Virginia became a slave exporting state, partly supplying the cotton planters with the necessary slave labor. The immediate effect was to enrich the tobacco planter whose slaves and land doubled in value as a result of the demand for both by the cotton planters.* The ultimate effect, however, was to make cotton, and not tobacco, the most important crop of the South.

From 1790 to 1840 the industry was stationary. It was not until 1840 that our tobacco exports equalled those of 1790. Improvements, however, in the curing of tobacco gave the industry new life. Prior to 1812 most tobacco was cured in the open air. Subsequently wood fire was used for curing and in 1837 charcoal was introduced. The "yellow bright," a popular leaf, was made possible by the new methods. In 1852 a lemon-colored leaf was grown for the first time in Caswel county, North Carolina, and became very popular both at home and abroad.

*Phillips, "The Economic Cost of Slave-Holding," in *Pol. Science Quarterly*, Vol. XX, 1905.

This new type created new markets in Europe. From North Carolina this new leaf was carried into Kentucky, Ohio, and Tennessee. In a single decade, from 1850 to 1860, tobacco production increased 115 per cent.*

The soil in the older states was becoming impoverished due to the old methods of cultivation, the single crop methods, with no fertilizer and no rotation of crops; and the newer states were making greater progress in tobacco culture. In 1859 the production of Kentucky, Ohio, and Tennessee, states which did not figure at all in 1790, was 176,707,518 pounds; that of Virginia, Maryland, and North Carolina 195,232,527 pounds, and much of the latter was cultivated on virgin soil opened up since 1850 in North Carolina. The table below shows the production of leaf in the Southern states in 1859. †

The culture of tobacco was being rapidly pushed in Missouri. In 1850 she produced only 17,113,784 pounds, whereas in 1860 she reported 25,586,196 pounds. The principal tobacco counties were Chariton, Howard, Franklin, Pike, and Callaway. Of these Chariton county alone has remained a tobacco county to any large extent.

One half of the total crop was exported in 1860, England still being the chief market, though Ger-

*The history of exportation from 1790 to 1865 is summarized in the following table from *Special Report on Statistics of the Manufactures of Tobacco*, Tenth Census, p. 38, showing exports of tobacco by typical five-year periods.

TOBACCO EXPORTED.

Years.	Hogsheads.
1790–94	465,065
1819–23	402,403
1833–37	474,759
1843–47	688,424
1757–61	811,454

†PRODUCTION OF LEAF TOBACCO IN 1859.[1]

State.	Pounds.
Virginia	123,968,312
Kentucky	108,126,840
Tennessee	43,488,097
Maryland	38,410,965
North Carolina	32,853,250

[1] Tenth United States Census.

many was a close second. The leaf was used for pipe smoking, chewing, and snuff. Cigar leaf was confined to the Northern states. The South, in 1860, still remained, as it does to-day, the largest producer of tobacco in the world, and still supplies the principal markets of Europe.

Effects to 1865.—The economic life and institutions of the early South were closely bound up with tobacco cultivation.

Tobacco was an important source of income and materially affected not only the well-being of the people directly depending on this crop but state economies. In Virginia, Maryland, and North Carolina during colonial days, and later, in Kentucky and Tennessee, tobacco was a barometer which measured the prosperity of the people. In 1790 exports reached $4,349,569; in 1840, $9,883,957; and in 1860, $15,906,547. The per capita wealth of the South in 1790 was much greater than that of the North, being for the free population, $137.98 for New England, $145.41 for Middle states, $217.07 for Southern states.* The South was not only the largest tobacco producing section of this country, but of the world, and its leadership in wealth corresponded with its leadership in political affairs in the United States.

The surplus wealth derived from his tobacco enabled the Southern planter to live in an easy, luxurious style, while he could buy more land and slaves to operate large plantations. Burnaby in his *Travels Through the Middle Settlements in North America* (1759-1760), says, "* * * Many of the gentlemen [in Virginia] are in possession of immense tracts of land. * * * The Virginians are content if they can but live from day to day, they confine themselves almost entirely to the cultivation of tobacco, and if they have but enough of this to

*Cf. "A Century of Population Growth," Bureau of Census, 1909, 144.

TOBACCO MARKET, LOUISVILLE, KENTUCKY.

pay their merchants in London, to provide for their pleasures, they are satisfied, and desire nothing more. A spirit of enterprise is by no means the turn of the colony, and therefore few attempts have been made to force a trade." The Southern planters were not urged to seek markets; buyers sought them. The reverse was true in the Northern colonies.

One evil result of such development was that none of the surplus capital found its way into business or commercial enterprises, and this retarded the economic progress of the South. The Southern community had become too self-sufficing, and too exclusively specialized. So important and exclusive a commercial crop had tobacco become during colonial days that it was frequently and for some time adopted as the currency system of Virginia and Maryland. Tobacco was the standard of value.* It was accepted and required in payment of taxes, attorneys' fees, physicians' fees, merchants' bills, and in exchange for other wares. Foreign debts were liquidated by tobacco notes, and these notes, issued by the government inspector to the planter on depositing his crop in the warehouse, passed current all over the colonies. Public revenues in Virginia and Maryland were derived principally from this crop in the form of an export tax and poll tax.

One of the direct results of tobacco culture was the adoption of the plantation method of cultivation in the South. Tobacco required virgin soil, and this led the early settlers to take up large estates, so that when one part became too poor for tobacco culture the planter could extend his crops to new land. Estates of 5,000 acres were common in Virginia and Maryland in the Seventeenth century.† When it was found that slave labor could be profitably ex-

*Hening, *Statutes at Large of Virginia*, II, 54; and Burk, *History of Virginia*, II, appendix, xxvii.

†Bruce, *Economic History of Virginia in the Seventeenth Century*, I, 953.

ploited on plantations devoted to tobacco culture, the institution of slavery was fostered and made a permanent part of the Southern economic life to 1865. It must be remembered that the plantation system, exploiting slave labor, had been perfectly worked out long before cotton became king and was naturally adopted by cotton planters.*

The urgent need of taking up new land was the first stimulus to westward migration from Virginia over the Alleghanies into Ohio, Kentucky, and Tennessee, which later became important tobacco states.

No important economic institution remained uninfluenced during the colonial times by the cultivation of tobacco: land tenure, system of production, slavery, wealth accumulation, currency, public revenues—all were directly affected, and, while tobacco gave way to cotton as the leading crop for the South as a whole, it still remained an important agricultural crop for Virginia, Maryland, North Carolina, Kentucky, Missouri, and Tennessee. It was tobacco which, at first unassisted, and then in conjunction with cotton, stamped upon the South its chief economic features: a highly specialized agricultural community dominated by wealthy landlords, who exploited slave labor under the plantation system of cultivation.

BIBLIOGRAPHY.—Beverley, Robert: *History of Virginia* (Richmond, 1855); Bruce, Phillip Alexander: *Economic History of Virginia in the Seventeenth Century* (2 vols., New York, 1907); Burk, John Daly: *History of Virginia* (4 vols., Petersburg, 1804-16); Callender, Guy Stevens: *Selections from the Economic History of the United States, 1765-1860* (Boston, 1909); Chalmers, George: *Political Annals of the United Colonies* (London, 1680); Phillips, Ulrich B. (ed.): *Documentary History of American Industrial Society* (Cf. Vols. I and II, *Plantation and Frontier,* Cleveland, 1910); DeBow, J. D. B. (ed.): *The Industrial Resources, etc., of the Southern and Western States* (4 vols., New Orleans, 1852-1853); Hening, William Waller; *Statutes at Large of Virginia* (13 vols., Richmond 1812); Jacob-

*See articles "The Development of Labor Systems in The Colonial South" and "Characteristic Methods of Southern Agricultural Production."

stein, Meyer: *The Tobacco Industry in the United States* (New York, 1907); Macpherson, David: *Annals of Commerce* (London, 1805); Phillips, U. B.: "The Economic Cost of Slave-Holding" (in *Political Science Quarterly*, Vol. XX, New York, 1905); Smith, Capt. John: *Works of* (Birmingham, Eng., 1884); United States Census, 1790 to 1860. See *Special Report on Statistics of Manufacture of Tobacco*, Tenth Census (Washington); *Yearbook of Department of Agriculture* (Washington, 1908).

MEYER JACOBSTEIN,
Department of Economics, University of North Dakota.

RICE PLANTING IN THE AGRICULTURAL DEVELOPMENT OF THE SOUTH.

THE introduction of rice in the South as a food product dates back nearly to the beginning of the settlement of America by the English. It was first brought to Virginia by Sir Willian Berkeley in 1647, but the results of its cultivation were not encouraging, and it was soon abandoned as an agricultural crop. In 1693 a Dutch brig entered the harbor of Charleston, South Carolina, from Madagascar, and the captain of the vessel gave to Landgrave Thomas Smith a peck of "paddy" (rice in the husk), stating that the seed would produce a very valuable food for the use of the colony, and advised its introduction. Landgrave Smith, thinking that the seed might have some economic value, first planted it in a moist place in his garden, and the resulting crop he distributed among the planters of the colony for cultivation and development. Two of these planters were named Stephen Bull and Joseph Woodward. Another authority relates that the first rice was brought to South Carolina in 1698 and that in a few years the crop warranted the shipment of sixty tons to England. Darymaple contends that the first rice

crop produced in South Carolina was from a bag of paddy sent to a Charleston merchant by DuBois, the treasurer of the East India Company. The year, however, is not given.

Several years elapsed after the introduction of rice into South Carolina before it was understood that the lowest and richest lands were best for its cultivation; but the results each year became more profitable. "From this small beginning," says Hewatt, "did the staple commodity of Carolina take its rise, which soon became the chief support of the colony and its great source of opulence."

"Rice soon after this period was an article of export from South Carolina," so states John Archdale, governor of this colony, in a pamphlet published in London in 1707. He says further, "Seventeen ships this year came ladened from the Carolinas with rice, skins, pitch, tar, etc., in the Virginia fleet." In 1754 the planters not only raised enough rice for home consumption, but also exported from Charleston 104,680 barrels.

The culture of rice by water was introduced by Gideon Dupont and General Pinckney of South Carolina in 1784. "In 1778 Mr. Lucas established on the Santee River the first water-power mill ever adapted to cleaning and preparing rice for the market, the model to which all subsequent improvements were due." * Upland rice was first cultivated near Charleston by John Bradley Blake in 1772 from seed secured in Canton.

Rice was introduced into Louisiana and successfully cultivated in 1718 by the "Company of the West." By 1850 it had become a considerable crop in North Carolina, Florida, Alabama, and Mississippi. At that time the great crops, more than three-fourths of the entire annual output of the United

*South Carolina Resources, 1883, State Board of Agriculture.

States, were harvested in South Carolina, Georgia, and North Carolina, as shown in the following table:

States.	1850 Lbs.	1860 Lbs.
Alabama	2,312,252	493,465
Arkansas	63,179	16,831
Florida	1,075,090	223,704
Georgia	38,950,691	52,507,652
Louisiana	4,425,349	6,331,257
Mississippi	2,709,856	809,082
North Carolina	5,465,868	7,593,976
South Carolina	159,930,613	119,100,528
Tennessee	258,854	40,572
Texas	88,203	26,031
Totals	245,289,955	187,143,098
Value of entire crops	$8,585,148	$7,485,723

The great joint annual rice crops from 1820 of North Carolina, South Carolina, and Georgia are given in the *Census of Charleston,* published in 1848, as follows: 1820, 69,354,600 pounds; 1824, 76,083,800 pounds; 1829, 83,438,000 pounds; 1833, 106,953,000 pounds valued at $2,379.845; 1836, 95,310,600 pounds valued at $3,097,594; 1844, 105,775,800 pounds valued at $2,644,395; 1847, 115,477,200 pounds valued at $5,196,474; 1849, 204,346,520 pounds.

The maximum crop was reached in 1850 when the three states above named gathered 204,347,172 pounds. From 1700 to 1861, when the Civil War began, the planters never reaped such a large amount of rice as was gathered in 1850.

The Carolina rice from the beginning has been considered to be the best quality of any rice grown in the world. Loudon, in 1855, states in his *Encyclopedia of Plants,* that "by far the best imported rice is from Carolina, it is larger and better tasting than that of India, which is small, meagre, and the grains frequently broken." A few years after rice became a staple crop in South Carolina, the seed was greatly

improved by selection, intelligent study, and cultivation; and the old so-called "white seed" was supplanted by the "golden seed," which produced a larger grain and better food product. Since the beginning of the Nineteenth century the golden seed variety has been almost universally grown by the planters, and the variety has gone through many changes under the careful development of the cultivators.

Prior to 1850 more than half the rice crop of the United States was produced in South Carolina, and four-fifths of the crop came from the coastal regions of South Carolina and Georgia. The following table shows how relatively small was the district from which most of the rice in 1859 was harvested, and it can be well understood that the few planters who controlled the crop received large compensation for their labors.

South Carolina—Counties.	Pounds.	Georgia—Counties.	Pounds.
Georgetown	55,805,385	Chatham	25,934,160
Colleton	22,838,934	Camden	10,330,068
Charleston	18,899,512	McIntosh	6,421,100
Beaufort	18,790,918	Glynn	4,842,755
Total	116,334,799	Total	47,528,083
24 other counties	2,765,729	28 other counties	4,979,569

The gathering of these large crops annually within the neighborhood of Charleston and Savannah produced marked effects on the prosperity of these cities. The accumulation by the banks of so large a sum of money derived from only one agricultural crop gave a tremendous impetus to all business affairs.

From the large revenues resulting from the marketing of rice the planters, consisting of strongly intellectual men, grew rich, and were thus provided with ample means whereby to gratify their tastes for

literature and science and the beautiful in home building, and the intellectual and refined men and women who occupied these plantation homes brought into existence a high state of civilization which is seldom experienced in a purely agricultural community. They were the leaders in the agricultural societies organized in the first half of the Nineteenth century, which wielded such potent influences in the political and social activities of the people of that time. These planters molded much of the thought and progress in farming operations, and in the agricultural development of their people. In the study of agricultural problems they were carried far afield in scientific researches, and in the history of contemporary science we find prominence given to many of these rice planters who had achieved fame by discoveries and high-grade work in zoological, botanical, and geological sciences. The large number of members enrolled from South Carolina and Georgia on the list of the membership of the American Association for the Advancement of Science, warranted the holding of the annual meeting of the Association in Charleston in 1850, and it resulted in one of the most important meetings of the society.

These planters, particularly in the southern part of South Carolina, on the Santee and Black rivers, built their homes with a lavish expenditure of money, and with an intelligent regard to the demands of comfort, refinement, and culture. Typical of most of the rice plantations of those early days were "Windsor," "Mildam," "Hopsewee," the home of Thomas Lynch, and "Hampton," the home of Daniel Horry, where a lawn of forty acres in extent dotted with oaks was once beautifully kept.

The cultivation of rice did not absorb all the land available for farming operations, but the excellent prices which the rice controlled in the markets, en-

couraged the planters to use most of the lands lying along the water courses for growing this product. In many of the plantations, however, large bodies of land were available for cotton, sugar cane, and indigo which were unsuitable for rice, so that the proprietors were able to diversify their crops and bring in revenues from marketing cotton, sugar, and other products which were successfully cultivated along the Southern sea coast. Rice requires flooding to yield its best results, and it was therefore, necessarily confined to the lowest lands where the water could be readily controlled by dams, canals, and water-gates.

The great money crop for the planters near the sea coast in the days before 1865 was rice, and additional land was from time to time added to the area devoted to the crop until many thousands of acres were used in the growing of rice.

The rice planters were very careful in conducting their farming operations, and, under intelligent direction, considerable attention was paid to feeding the soil, and systematic endeavor was made to keep the land up to its best condition for productivity. In those early days nothing was known about the commercial fertilizers so common in these modern times, but the cow barns and horse stables supplied a great amount of manure, which after being well composted was spread over the rice fields each year. The agricultural writers in those days published many articles in the farm journals concerning the proper use of manures for keeping the soil in a high state of fertility. These writers were generally the rice and cotton planters, and in most instances they gave their experiments in using the soil renovators then available. Some of the writers mentioned the cow pea as being a valuable soil recuperator, and wrote on the subject as enthusiastically as is done by

some of our present experiment station experts. After 1850 the so-called guanoes began to come into use on some of the plantations in South Carolina and Georgia, but not to any great extent. The evidence seems to be clear that the planters were careful to look after the fertility of the soil.

Larger areas of swamp lands were reclaimed and sowed down in rice from year to year as the demands in the market increased the price for the product, and the census reports bring out this fact by showing the steady increase in the yield of the crop, until it reached the extraordinary figures of the crop of 1850.

Throughout the South cotton has always been extensively planted and will be for many years to come the principal crop, but along the sea coast where rice had its sway not so much attention was paid to cotton by the rice planters. Cotton and rice requiring different conditions and methods of cultivation have never been, in a sense, competing products in the experience of the planters.

The cultivation of rice was peculiarly adapted to slave labor, particularly under the methods universally used by the planters prior to 1865. The ancestors of the negroes were brought from the jungles of Africa, and in many instances the laborer himself was direct from Africa, and they were, therefore suited by inheritance, by traditions and by habits to meet the conditions found in the swampy regions of the South. They were able to withstand the exposure due to working on the wet lands better than the white labor, and with less chance of injury to health.

Rice was used as the chief source of food by the laborers and it was greatly esteemed by them. It was cooked so that the grains were dried-out, and the mass not left in a gummy condition, and when eaten

with gravy or butter the food was greatly relished by all the people in the South. This is still the case with Southerners everywhere. It was seldom the case, either in the laborer's cabin or in the planter's home, that a meal was served without a bountiful supply of rice on the table. The food from its first introduction has been found to be highly nutritious and healthy.

The records concerning the yield of rice from the early period to 1865 are not full in all respects, and the author has found it to be impossible to secure anything like accurate estimates of the actual size of the crop from each of the larger plantations. In all the reports available, and there are many at hand, the data cover general estimates regarding the entire crop of individual states, but when a search is made to determine what amount of money was received from any one crop by an important plantation, and how many barrels of rice that particular plantation produced per year, the information is not definite enough for accurate history. If the planters were careful in keeping records on these important matters the writer has been unable to find them recorded in the publications made by the state and the Federal governments or in the agricultural journals printed during the period. It is no doubt true, however, from the general market reports made by the merchants of Charleston, Savannah, and other seacoast cities, that the planters were eminently successful in producing large crops of rice each year, and that the price paid them was highly remunerative and far above the actual expenses of production. This latter fact is shown elsewhere in this article where reference is made to the building of the beautiful and handsome homes on the plantations, where the planters spent large sums of money in erecting such dwellings, and in equipping them with things

which cultivated and wealthy people have found are conducive to comfort and happiness.

In discussing this subject of rice it is of special interest to note that large portions of the crops were exported to foreign lands and to many points in the Northern states. As an illustration of this fact the crops of 1840 and 1850 are submitted for consideration, as follows:

1840	Pounds.
Total crop gathered	84,252,600
Exported	60,996,000
Leaving for home consumption	23,256,600

1850	
Total crop	215,313,497
Exported	76,241,400
Leaving for home consumption	139,072,097

The crop of rice gathered in 1850 was valued at $7,535,972, and the income from the portion which was marketed yielded the planter $2,668,449.

BIBLIOGRAPHY.—Austin, Amory. *Rice—Its cultivation, production, and distribution in the United States* (Washington, 1893); Carroll, B. R. (compiler): *Historical Collections of South Carolina* (2 vols., New York, 1836); Drayton, John: *A View of South Carolina* (Charleston, S. C., 1802); Glenn, James: *Description of South Carolina* (Charleston, S. C., 1761); Hewatt, Alexander: *An Historical Account of the Rise and Progress of the Colonies of South Carolina and Georgia* (2 vols., London, 1779); Jones, Joseph: (Speech by): "Agricultural Resources of Georgia" (Macon, Ga., 1860); Mills, Robert: *Statistics of South Carolina, Including a View of Its Natural, Civil, and Military History* (Charleston, S. C., 1826); Ramsay, David: *History of the Revolution in South Carolina* (Trenton, 1785), and *The History of South Carolina, from Its First Settlement in 1670, to the Year 1808* (2 vols., Charleston, 1809); Russell, Robert: *Culture of Carolina Rice* (Charleston, S. C., 1855); Smith, W. Roy: *South Carolina as a Royal Province, 1719-1776* (New York, 1903); Patent Office *Reports* (Washington, 1847, 1848, 1853, 1854, 1858); *Southern Agriculturist* (Charleston, S. C., Vol. II, 1829); United States Censuses prior to 1865.

PATRICK H. MELL,
Formerly President of Clemson Agricultural College.

INDIGO CULTURE IN THE SOUTH.

Indigo culture was successfully established in South Carolina about 1745, by young Eliza Lucas after a series of experiments and failures covering several years. She had been left by her father, the governor of Antigua, in charge of his South Carolina plantation, and being possessed of a good working knowledge of the science of botany and the art of agriculture, she systematically conducted a sort of experiment station to discover what products of the West Indies or other tropical or semi-tropical countries might be grown profitably in South Carolina, a region then so undeveloped that its economic possibilites were even less understood than at the present day. Her first indigo plants were destroyed by frost; her second set by cut worms; her third reached maturity. Incompetent, if not treacherous, help baffled her in the more difficult task of preparing the product for market. It was not until after her marriage to Col. Charles Pinckney, that she brought the entire process to success, and thus established at her new home at Ashepoo plantation, about thirty-five miles southwest of Charleston, the new industry of indigo culture and manufacture.

As early as 1723 the colonial legislature granted a bounty on indigo culture; but it does not appear that any progress was made until Miss Lucas's experiments described above. As the result of her efforts, however, the industry increased so rapidly that the legislature, in 1746, repealed the bounty as having become too heavy a burden upon the public. In 1748 Parliament granted a bounty of 6 pence a pound on all indigo exported directly to England.

The indigo plant was found to grow well in loose,

dry soil, either near the coast or in the back country. It is about as tall as good cotton (*i.e.*, three and a half or four feet, though reaching sometimes six feet), with nearly the same number of limbs, growing similarly, but more smooth, straight, and slender. The leaves are of a bluish-green color, are of the pinnate order, and are distributed with comparative abundance along the branches. The flower is of a purplish-yellow, and is bell shaped. The seed is contained in a bean-shaped pod.

The dye is obtained from the leaves. In May or June, with the plant in full bloom, these become distended and juicy and the entire bush is harvested by being cut off near the ground, an operation which should be conducted at a very early or a very late hour of the day, as the leaves of the dissevered plant are quickly injured by the direct heat of the sun. The manufacture of the commercial indigo was comparatively simple. The process pursued in South Carolina was as follows: The entire bush was laid in a stout pine or cypress vat about sixteen feet square and two and a half feet deep, with the bottom raised about four feet from the ground. This was the "steeper." A quantity of the plant, held down by sticks with weights laid upon them, was immersed in water and left to steep for about twelve hours. The foaming and bubbling due to chemical action being finished, the water was let off through a hole near the bottom of the steeper into a tank or vat beside it called the "beater." In this the indigo water was subjected to two or three hours of violent agitation by means of paddles—a process usually conducted by hand, but by some planters by means of a wheel something like the wheel of a stern-wheel river boat. Beside the beater stood a tank or barrel from which, from time to time, lime water was ad-

mitted to facilitate precipitation, an aid, however, which some planters maintained injured the color of the product. Each "set of works" was served by about ten "hands."

The master indigo maker decided from specimens dipped up in a saucer when the flakes had reached the proper degree of precipitation, after which the liquid was left to settle. A fine blue silt collected on the bottom. The water above was let off through a succession of holes in the side of the beater and the indigo silt scooped up and reduced by pressure to cakes. These were then dried under a shed, as the sun would reduce them to a sort of cinder. In damp weather, however, the blocks might be placed in the sun if subjected to frequent turning over. The commercial grading of the product was: for the best, "fine blue"; the next, "ordinary blue"; then "fine purple," etc. The most inferior was known as "ordinary copper." The dried cakes or blocks were then placed in barrels for shipment to market.

The plant having sprung up from the roots after the cutting in May or June, the same process was repeated in September. Two varieties of the plant were grown: the wild or indigenous indigo, still to be seen in our woods, and the Guatemala variety. The former required replanting only once in seven years; the latter annually. The Guatemala was much more generally grown on account of its superior quality.

A good price for indigo was about a Spanish milled dollar a pound, and the quantity annually exported sometimes exceeded one million pounds in weight. In 1748 the price was 2½ shillings sterling a pound; in 1755 (June or July) a milled dollar a pound; in 1775, $1.10 to $1.20 of our present money a pound. A Georgian writing in the Nineteenth

century states that at that time the price varied from 30 cents to $2.25, according to quality. The culture was most extensive during the fifteen or twenty years immediately before the Revolution. The British government, beginning in 1748, paid a bounty of about twelve cents (6 pence) a pound weight for all exported to England. In 1764 this was reduced to 4 pence.

The importance of indigo culture in the social and political, as well as the economic, development of South Carolina was very great; for it and rice were the chief sources from which was poured into the lap of the Carolina planter the stream of wealth, in the extremely prosperous period from 1745 to 1775, which supplied the necessary material basis for the rich and cultured low country aristocracy whose influence on the history of the state has been so powerful.

Indigo for domestic consumption was raised in many parts of the province and state; but, largely on account of problems of labor and transportation, that produced for commerce came almost entirely from what are now (1909) the counties of Georgetown, Williamsburg, Clarendon, Sumter, Berkeley, Charleston, Orangeburg, Dorchester, Colleton, Hampton and Beaufort. Shortly before the outbreak of the Revolution, when the upper country was being developed after the crushing of the Cherokee Indians in 1761, plans were entertained by some rich low-country planters to extend the great indigo plantation system into the new region. Henry Laurens, jointly with his friend, John Lewis Gervais, obtained 13,200 acres near Ninety-Six which he intended to make into a great indigo plantation. Political and economic causes, however, made cotton the staple of that region.

The amount exported in the year 1747-48 was

134,118 pounds; in 1754, 216,954 pounds; in 1775, 1,150,662 pounds; in 1783, 2,051 casks.

Immediately after the Revolution large quantities of accumulated stock were exported; but the culture of indigo in South Carolina rapidly declined. Three causes contributed to this result. First, the loss of the English bounty was a severe blow. Second, the invention of the gin developed cotton, which thrives on the same sort of land as does indigo, into an overpowering rival. To place a bale of cotton on the market is much easier than to make a barrel of indigo. The manufacturing process connected with the latter required constant skilled supervision. The daughter of a rich Santee planter relates that during the cutting season her mother would not see her father for three weeks, as he could not leave his vats until a late hour at night, and had to be at them again before the family were awake. By 1796 cotton had almost entirely supplanted indigo. The third reason, a corollary of the second, lay in the unpleasant and unwholesome vapors that arose from the vats and drying sheds, injurious to the health of planters and laborers.

Indigo culture was continued longest in Orangeburg. As late as 1845, 35,000 pounds were being produced in that county annually, sometimes very profitably on land that hardly returned the seed of cotton planting. During the War of Secession, the cultivation of the indigenous indigo became common. The plant was generally boiled and the material to be colored was immersed in the water. Steeping in barrels was also sometimes practiced.

The cultivation of indigo was introduced into other colonies, particularly into Georgia, from South Carolina. The process of cultivation and manufacture was taught the Georgia planter by the

South Carolinians, and has already been sufficiently described above. The cultivation of the plant in Georgia was a notable success. A planter in middle Georgia reports that a good crop yielded sixty pounds or more to the acre. In this state, as well as in South Carolina, the cultivation continued for some time after the Revolution. During the War of Secession the industry was revived in a domestic way.

In 1880 in Germany a process was discovered by which a blue dye in every way as good as the natural indigo can be extracted from naphthalene, a coal tar derivative, and at a much less cost than that at which the natural dye can be produced. This has led to the abandonment of indigo culture almost everywhere except in India, Java, and the Philippine Islands, and even in those countries it seems that the industry is doomed, despite the efforts of the British government to foster it by requiring the use of the natural product for all fabrics for the army and navy. It is estimated that in 1906, 80 per cent. of the world's product was of the artificial variety.

Bibliography.—Carroll, B. R.: *Historical Collections of South Carolina* (New York, 1836); Drayton, John: *A View of South Carolina* (Charleston, 1802); Lord, E. L.: *Industrial Experiments in the British Colonies of North America* (Baltimore, 1898); McCrady, Edward: *South Carolina under the Royal Government, 1719-1776* (New York, 1899); Mills, Robert: *Statistics of South Carolina* (Charleston, 1826); Porcher, F. P.: *Resources of the Southern Fields and Forests* (Charleston, 1869); Ravanel, Mrs. H. H.: *Eliza Pinckney* (New York, 1896); Tuomey, M.: *Report on the Geology of South Carolina* (appendix) (Columbia, 1848); *Southern Cultivator*, II, 57, 58; and VI, 15 (Augusta, Ga., 1844; 1848).

D. D. Wallace,

Professor of History and Economics, Wofford College, Spartanburg, S. C.

SUGAR PRODUCTS IN THE SOUTH.

Introduction and Varieties of Cane.—Among the uncertain traditions of the early history of Louisiana is mentioned the fact that Iberville, "coming to the deserted village of the Quinipissas made a plantation of sugar cane there from seed he had brought from St. Domingo, but the seed being already yellow and sour came to naught."

Whether this is true or false, it is well established historically, that the Jesuits brought sugar cane from St. Domingo into the colony in 1751 and planted it on their plantation, just above Canal Street, in the city of New Orleans. Two French ships conveying soldiers to Louisiana stopped at Port au Prince, St. Domingo, and while there received some sugar cane and a few negroes, who were acquainted with its cultivation, for the Jesuit Fathers in Louisiana. Both reached the colony in safety and the negroes planted the cane in the garden of the plantation of the reverend fathers. The present Jesuit church on Baronne Street, occupies this old garden. This cane was of the Malabar, or Bengal, variety, a small, sweet stalk, subsequently known everywhere as "Creole" cane.

Sugar cane thus introduced into the colony has been grown in Louisiana ever since, but for fifty years only in small patches, finding a ready but limited sale in the local market "for chewing," and for the manufacture of "syrup" and "tafia." Several ineffectual attempts were made to manufacture sugar. In 1759 Dubreuil, a wealthy citizen of the colony, residing just below the city of New Orleans, erected "a sugar mill and attempted to make sugar. But the attempt proved to be a complete failure." In 1764 the Chevalier de Mazan, who resided on the

right bank of the river, again attempted the manufacture of sugar, but failed. In 1765 several planters, including Destrehan, "treasurer of the colony," erected sugar houses and essayed the manufacture of sugar. They made a small quantity of bad sugar which "looked like marmalade of guava jelly," which was consumed in the country. Though an attempt was made to ship a number of barrels to France, "it was so inferior that it all leaked out before reaching port." These failures, due to absence of clarification by lime, and ignorance of the proper point of concentration, checked further efforts. Again, the cession of Louisiana by France to Spain about this time, creating the first popular revolution for freedom of government on the American soil, with its consequent disastrous results, monopolized public attention and diverted it from industrial development. But the farmers continued to grow cane for the markets of the city and to manufacture "tafia." That goodly quantities of cane were used to manufacture tafia is evidenced by the official report to his government of D'Abadie on June 7, 1764, which says, "The immoderate use of tafia has stupefied the whole population."

In 1791 Don Antonio Mendez, "Procureur du Roi" of Spanish government in Louisiana, in conjunction with Solis, a refugee from St. Domingo, determined to conquer all difficulties and manufacture sugar. To this end they employed Morin, who had studied cane culture and sugar manufacture in St. Domingo, to superintend affairs. They made only a few barrels of sugar. They also succeeded in a small way in refining it, since at a grand State dinner given to the city by Don Rendon, Intendant of Louisiana for Spain, the attention of his guests was called to the small loaves of sugar used during the dessert as a Louisiana product, made by Antonio Mendez. It

required one of these little loaves to sweeten two cups of coffee, and "they were presented as objects of curiosity." It is now well established that Mendez made the first sugar in Louisiana, and was the first to refine it, but only in small quantities. The first crop of sugar, which influenced the destiny of Louisiana, and large enough to compel the attention and imitation of the planters and farmers, was made by Etienne De Bore in 1794, '95, '96, near the present Audubon Park, New Orleans.

According to the historian Gayarré, grandson of De Bore, he "began to plant and make preparations for manufacture in 1794, and in 1795 he made a crop of sugar which sold for twelve thousand dollars—a good price at that time."

Interest and excitement prevailed among the planters during the trial of this bold experiment. An eager, impatient crowd watched the concentration of the juice and when the announcement "It granulates" was made, "the wonderful tidings flowed from mouth to mouth and went dying in the distance as if a hundred glad echoes were telling it to one another." De Bore, "overwhelmed with congratulations," was called "the Savior of Louisiana." This success De Bore followed with energy and persistency, each succeeding year increasing his wealth, which exceeded $300,000 (a princely fortune at this time) at his death, made entirely in sugar. De Bore's results encouraged scores of planters to embark in the sugar industry, which grew from this year until it has become the leading industry of Louisiana. De Bore made his first crop of sugar with the Creole or Malabar variety of cane, inferior in size and quality, which has long since ceased to be cultivated, yet it "planted the highest civilization in Louisiana and laid broad the foundations of a commonwealth, at once the most pictur-

PLANTING SUGAR-CANE ON A LOUISIANA PLANTATION.

esque and most steadfast in its elements to be found in America."

The Creole cane was quickly supplanted (1797) by the Tahiti, a larger and sweeter cane, which remained as the chief variety cultivated until Mr. John J. Coiron introduced the striped and purple varieties (natives of Java) in 1817 and 1825.

These canes known to the sugar world as Batavian Striped and Black Java, were introduced to the island of St. Eustatius by the Dutch about 1750. In 1814 some packages of these canes were brought from St. Eustatius to Savannah, Georgia, and planted by a Mr. King on St. Simon Island. They were found well adapted to this section and Mr. King erected a sugar house and manufactured sugar from them. Mr. Coiron, who had formerly been a resident of Savannah, but now a planter in Louisiana, on a visit to his old home was so much pleased with this new cane, that he procured a few stalks and planted them in his garden on his St. Sophie plantation in Louisiana, where they developed into canes of such an attractive appearance and meritorious qualities that he later, in 1825, imported a schooner load of them from Savannah and planted a large area in them. From the St. Sophie plantation these varieties of cane were scattered over the state and gave a fresh impetus to the sugar industry.

Their ability to withstand a greater cold than the varieties already cultivated enabled the planters to extend the area devoted to sugar, and new plantations were opened further north and west. These canes continued until a recent date to be the main varieties cultivated in Louisiana and are even now grown in part on every plantation in the state.

Georgia was at this date a promising rival of Louisiana in the sugar industry, with Savannah as its centre. The remains of the old sugar houses on

the coasts of Florida and Georgia are suggestive of the former interest which these states took in the sugar industry. In 1853 and 1854 the price of sugar, due to enormous crops in Louisiana and Cuba, fell to a point that barely paid the expenses of production. The planters became dissatisfied and discouraged. Some thought the seed had run out and should be renewed. This wail of lamentation reached the ears of Congress, where the enemies of the sugar industry again decried the culture of cane in Louisiana as a forced one, precarious in its results. The friends of sugar in Congress, catching the home cry of degeneracy of seed, determined to rectify the difficulty by importing new seed in large quantities. Accordingly an appropriation of $10,000 was made to obtain cuttings of varieties best suited to the Southern states. The commissioner of patents was authorized to supervise the two expeditions, the one to the Straits Settlements, the other to South America. The secretary of the navy was authorized to furnish the ships. Both expeditions were without practical results to the sugar industry. The one to the Straits Settlements returned with "canes so badly rotten that no results were obtained."

The United States brig *Release,* Captain Simms, commander, with Townsend Glover, entomologist, to select the canes under specific written instructions from Mr. Brown, commissioner of patents, was sent to Demerara. It returned to New Orleans in 1857, bringing over 1,000 boxes of canes, which were distributed among the planters. Evidence as to the value of the introduced canes is rather conflicting. Mr. J. Holt, commissioner of patents, in his annual report of 1857, says, "The cuttings of sugar cane imported from Demerara by the government for the planters of the South promise to attain a large size and should they prove sufficiently hardy to with-

stand the climate of the region where they are intended to grow, it is believed that they will amply compensate in the end for the trouble of introducing them."

The New Orleans *Delta* has this to say of the importation: "The boxes were filled with miserable trashy stuff, completely spoiled. * * * The heat in the hold of the vessel it is said was by the thermometer 120° F. or upwards. * * * If this was the case why make the planters pay freight, when prices are so high, too, for a handful of West Indian pebbles."

A severe arraignment of the parties engaged in the introduction of these canes is found in *De Bow's Commercial Review,* May, 1857. A planter contributor says, "There never was such a failure. What a misfortune that Uncle Sam did not send a practical planter. * * * Not a sound bud from the stalks either in the hold or on deck." Though the evidence seems contradictory as to the seed, it was not as to results. If a single cane grew from this importation, it is not generally known to the planters of Louisiana. Hon. Miles Taylor, a representative from a sugar district of Louisiana in Congress at the time, made a speech before the house in this year, defending the sugar industry of Louisiana, in which he says "the crop of this year would be the largest ever made in this State." This declaration will excite surprise in the minds of those who infer from the appropriation made last year for the procuring of sugar cane for renewing seed in Louisiana that the plant had deteriorated then. "The cane has not deteriorated. The crop for the present year is planted with Louisiana cane and exceeds any ever before planted there. * * * Louisiana cane is better fitted for the production of certain large crops of sugar than any which will be likely to be introduced."

The opinion of this speaker has been fully sustained, since at the outbreak of the civil war in 1861, the cane fields of Louisiana were occupied exclusively by these varieties, the "Purple" and "Striped."

Development of the Sugar Industry.—The unexpected success of De Bore's experiment caused a powerful and immediate development of the sugar industry of Louisiana. Lands were bought, fields rapidly cleared and seeded into cane, slaves were imported in large numbers to cultivate them and sugar houses were erected. The development was so rapid that in 1802 the city of New Orleans received over 5,000,000 pounds of sugar, 250,000 gallons of molasses, and 200,000 gallons of rum. In 1818 the yield of sugar had increased to 25,000 hogsheads.

Steam power was introduced in the sugar houses for the first time in 1822 and served to crush the canes, a process hitherto performed by animal power. This introduction of steam gave a wonderful impetus to sugar growing, so that in a score of years the industry had doubled its yields despite the various obstacles, local and national, which served then as now to produce profound fluctuations in the annual output. In 1828 there were 308 estates, with a value of $34,000,000, utilizing 21,000 slaves. Sugar and cotton estates existed side by side in the upper parishes of the state, and the two were interchangeable at the will of the planter whenever prices of either staple showed the largest profit from its culture. In 1835 sugar fell to 6 cents a pound, a price below the then cost of production. Accordingly many planters abandoned cane and planted cotton and aided in increasing the cotton crop of Louisiana for 1836 to 225,000 bales.

The production of cotton predominated in this borderland until 1842, when over-production had brought a decline in cotton price and the tariff of

CUTTING SUGAR CANE IN LOUISIANA

that year had stimulated an increase in the value of sugar. Accordingly, in 1844, we find in Louisiana 762 sugar estates, capitalized at $60,000,000 and cultivated by 51,000 slaves. In 1845, 367 new sugar houses were built, mainly on former cotton estates, bringing the total to 1,104.

A curious condition existed at this period, well worth recording. The stimulus of the tariff of 1842, aided by the very low price of cotton, sent many cotton parishes successfully into sugar. The planters of the coast became alarmed at this sudden and successful expansion of the cane areas and some asserted that the tariff of 1842 would drive the entire cotton section into sugar. In 1849, in spite of floods and crevasses, 113 new sugar houses were erected, including a few in Concordia parish, Louisiana, and Wilkinson county, Mississippi. Texas by this time had thirty-five estates, yielding 10,000 hogsheads of sugar.

In 1850 the price of cotton had risen to a highly remunerative figure, which put a check upon further expansion of sugar. In fact, many estates on the "border" returned to cotton and this tendency was greatly enhanced by the low price of sugar in 1854, caused by the large crops of 1852-53. But a series of short crops beginning in this year, 1854, and reaching a climax in 1856, with a crop of only 73,296 hogsheads, soon restored prices of sugar, but not until many a planter became despondent and embarrassed and some even petitioned the national government to make the appropriation for the renewal of seed described elsewhere. As before mentioned, the crop of 1857 was a good one, and fetching fair prices restored confidence and enthusiasm to the depressed planters.

In 1858, notwithstanding disastrous crevasses and frost in the upper parishes, the crop reached 362,296

hogsheads. The crops of 1859-60 were again small, but in 1861, after the outbreak of the war, the unprecedented yield of 459,410 hogsheads of sugar was obtained.

With the war came destruction, desolation, despair. Sugar houses were destroyed completely, the outfit being removed for warlike purposes. Many of the planters were killed or died during the war. Land once well drained and thoroughly cultivated was abandoned, and the ditches filled and overgrown with bushes. The well-trained slaves were now emancipated from bondage and from work. The banks of New Orleans, once stronger than those in New York, had been wiped out by the war and with them all possibility of credit. The crop of 1864 had fallen to nearly 5,000 hogsheads, scarcely larger than De Bore's first crop. To reconstruct an old industry is far more difficult than to develop a new one. The latter is easy with abundant lands, ample capital, and eagerness of planters to embark in it. In the disastrous conditions prevailing at the close of the war, the only factors favorable to a reconstruction of the sugar industry were an abundance of lands and a willingness on the part of planters to do what they could. But labor and capital had both to be coaxed and cajoled ere a beginning could be made. However, "human fortitude is equal to human calamity," and brave hearts and strong arms essayed the task.

The following are the quantities of sugar, expressed in terms of tons of 2,240 pounds, grown in Louisiana from 1823 to 1865, taken from Champomier:

Years.	Tons.	Years.	Tons.
1823	15,401	1829	24,642
1824	11,807	1830	
1825	15,401	1831	
1826	23,101	1832	35,031
1827	36,450	1833	37,482
1828	45,178	1834	51,339

Years.	Tons.	Years.	Tons.
1835	15,401	1851	115,197
1836	35,937	1852	164,312
1837	28,925	1853	224,188
1838	35,927	1854	177,349
1839	59,049	1855	113,664
1840	44,065	1856	36,813
1841	46,257	1857	137,512
1842	17,878	1858	185,206
1843	51,347	1859	113,410
1844	102,678	1860	117,431
1845	142,723	1861	235,856
1846	70,995	1862	
1847	123,214	1863	39,690
1848	112,964	1864	5,331
1849	120,465	1865	9,289
1850	103,111		

The Revenue on Sugar.—Sugar is a most profitable, if not the ideal, subject for the raising of revenue and is so recognized by nearly all of the nations of the world. There are many striking reasons for this. The revenue is easily and cheaply collected, the importations are made in large quantities and at a few of the larger ports where refineries are located. There is but little room for fraud in its collection and small chance for smuggling, and last but not least, the taxation imposed is well distributed, falling most heavily upon the rich, with their excess of bon-bons and sweetmeats, while the poorest citizen contributes his mite to the public support in the few lumps used daily to sweeten his coffee. Many of the nations of Europe support their standing armies by the heavy duties levied upon sugar.

Early in its history the United States recognized sugar as a fit article upon which to raise a revenue. In 1789, fourteen years before the Louisiana Purchase and six years before the first commercial crop of sugar was raised in Louisiana, the national government imposed a duty of one cent per pound on brown sugar and three cents on loaf sugar. Since that time sugar has always been on the tariff list, save the few years of the bounty.

The above duties were augmented in 1790, 1797, and 1800. In the last year the duties were raised to 2½ cents on brown and 5 cents on loaf. In 1812 the duty was raised to 5 cents and lowered to 3 cents in 1816. The duties were imposed for "revenue only" and continued until 1833 when the compromise act was adopted. Under this act the tariff was gradually reduced each year. Coincident with the highest reduction under this act in 1842, came a series of large crops, both in Louisiana and Cuba, with very low prices, which resulted in a universal demand for a higher tariff, both for revenue and as a salvation to the sugar planters of Louisiana. In compliance with this demand a tariff of 2½ cents was levied upon brown sugar. Pending these years, 1833 to 1842, the prices of sugar fluctuated greatly, more in consonance with supply and demand than in response to the tariff, for the world's demand for sugar at this time was exceedingly limited. Simultaneous good crops in Louisiana and Cuba would depress prices regardless of the tariff and frequently lead to disaster. This is well exemplified by the tariff of 1846, when for the first time an *ad valorem* (30 per cent.) was established instead of the heretofore specific duties. This greatly diminished tariff had no material effect upon sugar values for several years after its adoption, due to small crops in Cuba. But when both countries increased yearly their yields, culminating in Louisiana in 1853 in the hitherto unprecedented output of 450,000 hogsheads, the value of sugar fell to two and three and one-half cents per pound, prices scarcely equal to the cost of production.

In 1855 and 1856 short crops, both in Louisiana and Cuba, stimulated prices and sugar reached such a price in 1856 as to cause Congress to lower the duty in 1857 to 24 per cent. *ad valorem,* which duty remained until the war.

At the outbreak of the war, the South having seceded and there being no longer any need of protection, the duty was lowered to ¾ of a cent, but it was soon found that the exigencies of war required increased revenues, and the duty on sugar was quickly raised to 2, then 2½, and finally 3 cents per pound, at which it remained until 1869.

Improved Methods and Transportation.—The steam engine as a power for propelling the crushing mills of the sugar house was introduced by Mr. Coiron in 1822 and was the first impulse towards the many improvements which have since entered our factories. With the engines came larger mills, and as both had to be imported the cost was so large as to deter many planters from using them. However, home foundries were soon established and prices were greatly reduced. Planters began to use them extensively so that in 1860 steam power was the chief motive power throughout Louisiana. These mills and engines came from Pittsburg, Cincinnati, Louisville, New York, Philadelphia, and Richmond.

The vacuum pan was introduced in 1830, and with it the practice of refining sugar. The centrifugal for drying sugar came in 1852, and the first bagasse furnace was erected in 1853. Double mills were first used in 1846. In 1844 Mr. Robert Reilleux, a native of Louisiana, invented the Reilleux apparatus, the original of all "double," "triple" and "multiple" effects, and this process of evaporation, modified in the many devices now found under the names of the inventors, is at present used in every up-to-date sugar house of the world.

Coal was first used as a fuel in the sugar house in 1840, and since that time millions of tons of Pittsburg coal, floated down the Ohio and Mississippi rivers in flat boats, have been consumed under the boilers of the sugar houses.

In 1812 the steamer *New Orleans,* the first steamboat that ever floated on the Mississippi, entred the port of New Orleans, coming directly from Pittsburg. After this steamboats on the Mississippi multiplied rapidly and afforded ready and rapid transportation to the growing sugar industry. In a few years steamers not only transported the sugar and molasses from the plantations to New Orleans, but also carried supplies of all kinds from this city to the plantations. And, more; they aided greatly in distributing the sugar and molasses from New Orleans to the markets of the world, inbound through the Mississippi and its tributaries and outbound through the gulf to the cities of the East.

On account of the abundance of labor, the cane crop up to the war was cultivated mainly with hoes, the plow being used only for breaking the soil and "offbarring and returning the dirt to the canes." Cultivation was always complete and thorough, guided and directed by the most advanced and progressive agriculturists of that day.

Peruvian guano was used in 1857 upon the cane fields of the state with most gratifying results. In many instances the yields were doubled by its use. Then, as now, only cane was grown as a money crop. Corn, oats, and hay were raised in limited quantities for the work stock. Everything else was bought and the plantations of Louisiana furnished profitable markets for the mules, implements, provisions for man and beast, cooperage for sugar, engines, mills, kettles, pans, and coal for sugar houses, which were delivered at the landings in flat boats brought down the Mississippi. Clothing, boots and shoes for the large number of slaves, groceries and sundries for the family came from the East and were delivered by steamers from New Orleans. Then, as now, every section of the country received a portion of the

money gotten for sugar, as well as the sugar and molasses, grown upon the plantations of Louisiana.

No industry has a wider distribution of its products and none that calls so universally for all the other products of the country.

The war found the sugar industry of Louisiana enjoying the highest prosperity and left it absolutely destroyed.

BIBLIOGRAPHY.—DeBow, J. D. B. (ed.): *DeBow's Commercial Review of the South and West* (39 vols., New Orleans, 1846-1870), and *The Industrial Resources, etc., of the Southern and Western States* (4 vols., New Orleans, 1852-53); Champomier, P. A.: *Statement of Sugar Crops Made in Louisiana* (New Orleans, 1828-61); Gayarré, Charles: *History of Louisiana* (4 vols., New Orleans, 1854-66, 3d ed., 1885); Stubbs, Wm. C.: *Sugar Cane—A Treatise on the History, Botany and Agriculture of Sugar Cane* (Louisiana Bureau of Agriculture, 1897); Patent Office *Reports* (Washington, 1856 and 1857); Congressional Documents; New Orleans *Delta;* New Orleans *Picayune,* and various histories of New Orleans.

WILLIAM C. STUBBS,
Professor of Agriculture, Louisiana State University.

THE HISTORY OF COTTON PLANTING IN THE SOUTH.

I. 1607-1815.—Although cotton is supposed to be indigenous to the Western as well as to the Eastern Continent, it is doubtful if it was ever grown in the territory now occupied by the United States of America prior to the settlement of that land by European colonists.

The cultivation of the staple began the year of the arrival at Jamestown * and by 1621 cotton was listed among the marketable commodities of the colony. In the colonies to the south of Virginia its cultivation was also undertaken very soon after

* *Description of the Now discovered river and country of Virginia*, cited by title in Cal. State Papers. Colonial, 1574-1660, 15, I.

their settlement began, being reported from the Carolinas in 1664, from Georgia in 1735, from Florida in 1754, and from Louisiana in 1722. In spite of these early beginnings the culture of the staple made slow progress during our colonial era. Scattered references to the subject in the writings of the times show that it was not entirely neglected. Occasionally ambitious governors, like Berkeley and Andros of Virginia, sought to encourage the cultivation of cotton, largely for the purpose of diverting the energies of the colonists from tobacco raising, but their efforts proved to be short-lived and can not be said to have resulted in any widespread or permanent interest in cotton growing. There was no market for the staple. The cotton manufacture did not begin in England until the beginning of the Seventeenth century and it made little progress there until the introduction of machine methods of manufacture. The small quantities of cotton grown in the colonies were therefore used almost wholly by the colonists themselves in the manufacture of their own clothing, but since this was of the coarsest sort, and cloth of a better quality was readily procured from England in exchange for tobacco, indigo, and naval stores, the home-made cloth was worn by only the poorest classes in the South.*

The outbreak of the American Revolution cut off from the colonists their supplies of English clothing and compelled them to depend largely upon their own skill to supply their needs for textile goods. Wool was the commodity most in demand for this purpose but it could not always be supplied, and it is not a matter of surprise, therefore, that the people of the South should have in-

*Byrd, *History of the Dividing Line*, 41; Burnaby, *Travels Through the Middle States*, 12–13; *Franklin's Works* (Sparks' edition), VII, 393.

creased their efforts to cultivate and manufacture cotton. The legislatures of Maryland, Virginia, and South Carolina urged this subject upon the attention of their constituents. Premiums were offered for the making of cotton cards and in various other ways was the culture and manufacture of cotton encouraged. In all the territory south of Philadelphia cotton growing on a small scale began to engage the attention of the farming classes. So great was the confidence felt in the ability of the Southern people to grow cotton that Alexander Hamilton, writing in 1775, said that "several of the Southern colonies are so favorable to it that with due cultivation in a couple of years they would afford enough to clothe the whole continent." * That this expectation was not over sanguine at the time is shown by the reports of travelers who passed through the South both during the earlier and later years of the war and who have left us excellent accounts of the methods of cotton cultivation and manufacture then being pursued and of the extent to which cotton was then grown.† Jefferson in his *Notes on Virginia,* written in 1782, mentions the progress made in cotton growing in that state and expresses the opinion that cotton will prove a valuable substitute for tobacco in the southern part of the state when the latter crop is no longer profitable.

The possibility of raising cotton in all the Southern states had been amply demonstrated during the war period, but there was as yet no certainty that cotton would become a profitable crop for the market, such as tobacco, indigo, and rice had been. The culture of these crops was declining; that of

---

Hamilton's Works (Lodge edition), Vol. I, 157–160.

†Smyth, *A Tour of the United States,* I, 84, 99; II, 39, 68–71; Anburey, *Travels Through the Interior Parts of America,* II, 423–427; Schöpf, *Reise durch einige der mittlern und südlicheren vereinigten nordamerikanischen Staaten,* I, 545; II, 55, 117.

tobacco because of the exhaustion of the soil which followed the one-crop system of cultivation, that of the two latter because of the loss of a market which followed the political separation from the mother-land. A new crop was needed in the South which should furnish the basis of commerce and enable the planters to purchase their necessary supplies. Cotton was naturally thought of in this connection, for during the years of the Revolution great changes had taken place in the commercial demand for this staple. The inventions of machines for spinning and weaving had ushered in the factory system of manufacture in England and had found their first application in the cotton industry. The reduction in the prices of cotton goods which the new methods of manufacture had brought about had led to increased demands for these goods and consequently to a greater need for the raw material. The old sources of supply, the Levant and the West Indies, were incapable of much expansion and new regions of production were being sought after.

In the United States, too, efforts were being made to introduce the new methods of manufacture and hopes were frequently expressed by men like Tench Coxe, and others, that the Southern states would furnish the cotton needed for the factories, in case their establishment was successful. The leading statesmen of the times, Washington, Jefferson, Hamilton and Madison interested themselves in the subject of cotton growing and expressed confidence in its ultimate success.

In 1876 the sea-island, or long-staple cotton was introduced into South Carolina from Barbadoes. Its long and silky fibres made it a desirable commodity for manufacture, and it soon commanded high prices in the British market. Furthermore,

its seeds did not adhere closely to the fibres and it could be easily cleaned by means of a simple roller gin. There was as yet, however, no means of cleaning the short-staple cotton other than picking it by hand, a slow and tedious process which was entirely impracticable if this cotton were to be raised for the market. The cultivation of the long-staple cotton was confined by climatic conditions to the low grounds near the seashore, and all attempts to grow it in the interior of the country failed. Only the short-staple cotton could be cultivated upon the uplands, and any extension of its cultivation was hopeless unless some expeditious method of cleaning it were devised.

The solution of the difficulty came in 1793 with the invention of the saw-gin by Eli Whitney, a Massachusetts boy who had gone South to teach school and whose attention had been called to the subject of cotton cleaning by cotton growers from the hill country of South Carolina and Georgia, where two or three million pounds of cotton had been raised and gathered from the field in 1792, but could not be sold because its owners were unable to prepare it for market.*

The success of the saw-gin removed the last obstacle to the spread of cotton culture throughout the uplands. Its cultivation made rapid progress within the states of South Carolina and Georgia; Augusta being for many years the centre of production and chief interior market for the product. The planters in the coast region substituted the cultivation of the long-staple cotton for indigo and to some extent for rice, while the new settlers in the back country who had been attempting wheat growing surrendered this crop in favor of the green-

*Letter of Phineas Miller, partner of Eli Whitney, to Paul Hamilton. See *American Historical Review*, October, 1897, 115.

seed cotton. So great were the profits from cotton raising that already, in 1808, Ramsay could say of this staple: "It has trebled the price of land suitable to its growth, and when the crop succeeds and the market is favorable, the annual income of those who plant it is double to what it was before the introduction of cotton." *

Cotton growing did not make rapid progress outside of South Carolina and Georgia until after the close of the Eighteenth century, and even as late as 1820 these two states raised over one-half of the cotton grown in this country. About the beginning of the Nineteenth century, however, cotton cultivation began to spread into central North Carolina and the southeastern corner of Virginia. The scarcity of land suitable to its growth and the danger from early frosts prevented cotton from gaining the importance in these states that it attained farther South. Owing to the presence of hostile Indian tribes the spread of cotton culture into the southwest was hindered for a time, but in Tennessee its culture began quite early and made rapid progress until the outbreak of the war.

The market for cotton during these early years was found to a large extent outside of the country, especially in Great Britain. As the export demand continued strong and prices remained high no uneasiness was caused by this considerable dependence on a foreign market until the Embargo and Non-Intercourse acts of 1807-1809, followed soon by the war with Great Britain, deprived the cotton growers of their principal market. Cotton exports, which in 1807 had amounted to 66,000,000 pounds, fell in 1808, the year of the Embargo, to 12,000,000 pounds. They soon recovered, however, and in 1810 amounted to 93,000,000

*Ramsay, *History of South Carolina*, II, 214.

pounds, but again declined during the war, and in 1814 amounted to less than 18,000,000 pounds. Fortunately for both North and South, this suspension of commerce was accompanied by the rapid growth of the cotton manufacture at the North which was enabled by the cessation of imports of cotton goods to establish the factory system of production on a commercial basis. Of more immediate importance to the cotton growers was, however, the demand for cotton caused by the development of household manufacture at the South as well as at the North. The census of 1810 showed that the state of Georgia, where there were no factories, manufactured more yards of cotton cloth than did Rhode Island, the centre of factory production, and that the states of North and South Carolina led all others in the number of looms.*

The uneasiness caused in the South by the temporary loss of the foreign market, and the successful development of manufactures both in the North and the South led Southern congressmen to offer less resistance to the demands of the cotton manufacturers for a protective tariff at the close of the war than one might naturally have expected from them. "Calhoun and the part of the cotton South he represented, accepted protection in the belief that it would extend the field of consumption for the raw products of the South."† The Tariff Act of 1816 was therefore passed with the aid of Southern votes.

II. 1815-1861.—At the close of the War of 1812-1815 cotton culture entered upon an era of growth and expansion which continued almost uninterrupted until the outbreak of the Civil War.

American State Papers: Finance, II, 668–9 Pitkin, *A Statistical View of the Commerce of the United States*, 472–3.

†Ballagh, *Southern Economic History: Tariff and Public Lands.* American Historical Association, *Annual Report*, 1898, 230.

In Europe, American cotton grew in favor so rapidly that it almost entirely displaced the cotton from Brazil and the West Indies which had been its rivals during the first two decades of the century, and after the first quarter of the century the American staple enjoyed something akin to a monopolistic position in the markets of Great Britain. The home market for cotton was also expanding owing to the rapid growth of the factory system in New England.

The cotton needed to supply these growing markets came principally from South-western lands which were thrown open for settlement during the years 1820-1840, after the removal of the Indian tribes to beyond the Mississippi River. In 1811 the Atlantic Coast states produced fifteen-sixteenths of the cotton crop of the country and in 1821 they still made up two-thirds of the total yield. Cotton was believed to be the staple of the uplands. The error in this point of view was revealed as soon as the black prairie lands of central Alabama and the rich alluvial lands along the Mississippi and Red rivers were brought under cultivation. Not only was the yield of cotton per acre much larger here than in the Eastern cotton belt, but owing to the greater depth of the surface soil these lands were capable of cultivation by the methods then employed much longer than were the lands in the East.

In the history of the western expansion of cotton culture two periods deserve especial mention. The first is that of the years 1833-1837, when the settlement of the Southwest was being stimulated by the rapid sale of the public lands to land speculators and the facilities which the newly established state banks afforded to would-be settlers to purchase on credit the lands held by these speculators.* Within

*Balbagh, *Tariff and Public Lands, loc. cit.*, 258–261.

a period of three years fifty-five millions of dollars were applied to the purchase and cultivation of lands in the new states and the production of cotton in these states had nearly doubled.* Although the crisis of 1836-1837 checked agricultural operations for a time and caused a falling-off in the western cotton crop, the Eastern cotton belt never regained the supremacy in the production of this staple.

The second period of rapid expansion of cotton growing followed the annexation of Texas in 1845. Although the sparse population of this state prevented its attaining the first rank among the cotton states until some years after the close of the war, the largest increase in cotton production during the decade 1850-1860 came from this newly acquired territory.

The methods of cultivating cotton prior to 1860 were of a sort to favor its production on a large rather than on a small scale. This was due, in part, to the use of slave labor, but it was also due to the fact that the steadily increasing demand for cotton in Europe and the abundance of fertile land in the South encouraged the cultivation of this crop to the exclusion of others. Anything like a well-planned system of crop rotation was unknown. Cotton was produced almost exclusively on the large plantations, the size of which varied from 400 to 10,000 acres or more.† Not all the tillable land of the plantation was brought under cultivation at any one time. One portion of the land was cleared and cultivated until it began to show signs of exhaustion, when another strip would be made ready for cultivation. When finally all the fertile land of the plantation had been used up, the

*Hunt's Merchants' Magazine, Vol. XIII, 470–472.
†Compendium of the Seventh Census, 175.

planter, or his sons, would migrate to new lands in the states to the west there to begin over again the process of "land killing." Land instead of being regarded as a permanent investment was regarded as a part of the planter's current expenses, and its period of endurance was taken into consideration in determining the price to be paid for it.*

In the cultivation of cotton little or no machinery was employed, the tools were of the simplest sort, and the use of fertilizers was almost unknown prior to 1860. The only other crop which was extensively grown within the cotton belt was Indian corn which was the basis of food supplies for man and beast. Owing to the similarity in the methods of cultivating corn and cotton their rotation proved to be of little value in postponing the exhaustion of soil fertility. The absence of large cities and manufactures at the South meant that there was no market for food crops, and many planters failed to raise even the corn and bacon necessary to supply the laborers on their own plantations, but purchased these commodities in the Northwest.†

Although in the hill country and here and there in other portions of the South cotton was grown by free white labor with success, on the large plantations, whence came the great bulk of the cotton supply, slave labor was almost exclusively employed. So close, indeed, was the connection between slavery and cotton growing that it was noted by all observers. In the minds of the Southern people this relationship was regarded as by no means an accidental one, but cotton cultivation and its expansion were supposed to be dependent upon the perpetuation and extension of negro slavery. In the light of the experience which has been gained

*C. W. Howard of Georgia in Patent Office *Report* (Agriculture), 1860, 226.
†Russell, *North America: Its Agriculture and Climate*, 289–292.

during the forty or more years which have elapsed since the emancipation of the slaves, it is easily seen that this explanation of affairs was superficial, but it is none the less true that the connection between the two institutions was a vital one. Slave labor was not essential to cotton growing, but cotton culture was more than anything else responsible for the perpetuation and growth of slavery.

At the time when cotton growing began to assume a position of importance in Southern economy, slavery was a declining institution. Slave labor had been used prior to the Revolution in the cultivation of tobacco, rice and indigo, crops whose cultivation had become no longer profitable nor capable of much extension. Slave labor did not appear to be highly regarded by the growers of other crops. The value of slaves had for some years been declining and the leading planters and statesmen of the South looked forward to the early extinction of slavery.*

The discovery that cotton could be made a profitable crop and could be successfully grown in nearly all parts of the Southern states opened up a new field of employment for slave labor. Its profitable use requires: (1) that the task be simple and not so difficult but that nearly all the members of the family can be employed in its performance; (2) that the employment continue throughout most of the year, in order that the slaves be steadily employed; (3) that cheap subsistence be provided for the workers; (4) that the organization be such that a large number of workers can be placed under the supervision of a single overseer, and (5), that there be new and fertile lands which can be brought under cultivation when the old lands wear out through the process of cultivation which the use of slave labor

*See article, "The Development of the Slave-Labor System to 1861."

compels. In all these respects cotton soon proved its superiority to the other slave-grown crops, and there began a steady transfer of slaves from the cultivation of tobacco, indigo, and other Southern staples to the cotton fields of the South.

This demand for slave labor by the cotton growers had several important results. It brought about a great increase in the price of slaves. In 1792, just before the invention of the cotton gin, a good field hand could be purchased for $300. By 1809 the price had doubled. The average price of such a hand is said to have been about $800 in 1828, $900 in 1848, $1,200 in 1853, and from $1,400 to $1,800 in 1859-1860.*

Another important consequence was the prolongation of slavery in the border states. Instead of emancipating their slaves because their use was no longer profitable, as had been the confident expectation of such men as Washington and Jefferson, the planters in these states sold to traders their surplus negroes for the cotton belt. Virginia led all other states in this field of trade, but other states added their supplies to the black stream which flowed steadily to the South and West.†

Still another result of the close connection between cotton culture and slavery was the demand made at the South for the annexation of new territory suitable for cotton growing and open to slavery. The annexation of Texas was the direct result of this movement, but there were other projects, such as the effort to annex Cuba, which did not succeed but which were the product of the same inspiration.

The need for more territory was not due to the

*Phillips, "The Economic Cost of Slaveholding," in *Political Science Quarterly*, XX, 262; Olmsted, *The Cotton Kingdom*, II, 151–2.

†See, for a discussion of this subject, Dew, *Pro-Slavery Argument*, 399; Brown, *The Lower South in American History*, 59; von Halle, *Baumwollproduktion*, I, 282–3; Phillips, *loc. cit.*, XX, 257–275; Hammond, *The Cotton Industry*, Part I, pp. 51–55.

Art Co., Detroit Publishing Company.

WEIGHING COTTON BEFORE SHIPMENT.

fact that cotton had occupied all the lands which were capable of its cultivation, for in proportion to the total area of the cotton states the acreage devoted to cotton was ridiculously small. It was due rather to the fact that owing to the high prices of slaves it was not profitable to use them except under the most favorable circumstances. As a rule, only the most fertile lands were given over to cotton growing.

One further result was the demand made by cotton growers for the reopening of the African slave trade. The high prices of slaves made their use in cotton growing a highly speculative business and threatened loss to the planters. The border states were practically the only source of supply and the people of these states naturally did not support the demand of the cotton growers for the repeal of the prohibition of the slave trade. As the cotton states could not force the issue, the repeal of the prohibition was not secured, but the agitation helps to explain the great increase in the illegal importation of slaves which took place during the closing years of the slave régime and the toleration with which this infraction of the laws was regarded by the people of the Lower South.*

The final and most fatal consequence of the connection between slavery and cotton growing was seen when the cotton states, finding their peculiar institutions, slavery and cotton growing, hemmed in on all sides by free territory, and unable to secure the acquisition of Cuba or the repeal of the prohibition on the African slave trade, determined as a last resort on secession as a means of freeing themselves from Northern interference.† stop

III. 1861-1865.—The progress of cotton culture

*DuBois, *The Suppression of the African Slave Trade to the United States of America* 174–183.

†Ballagh, *op. cit.*, 243.

was of course checked by the war and even its continuance was in many cases rendered difficult. At the outbreak of the war many people believed that cotton would be the means of providing the funds needed to finance the struggle. An export duty on cotton was in fact levied in 1861 as a guarantee for the first Confederate loan.* Prominent Southern statesmen, like Stephens and Trenholm, wished the Confederate government to engage in the business of exporting cotton and to use the stored-up supplies as a means of securing loans in Europe.† Any considerable export trade in cotton was, however, soon rendered impossible by the effective blockade maintained by the Federal government. Small quantities of cotton did at times manage to escape the blockading squadron and found a ready sale at high prices in Europe. Other small quantities found their way to the North especially during the closing years of the war when the Northern armies were gradually making their way southward, and a trade in this staple took place between Southern planters and merchants on one side and traders licensed by the Federal government on the other.‡ The high prices of cotton were a constant incentive to speculation and even the Confederate government and the individual Southern states at times participated directly in the trade in cotton, although professing their disapproval of such transactions.§

In spite of these efforts to find a market for cotton the interference with trade caused by war and the blockade led to a rapid falling-off in cotton production. Not only was it impossible to sell the cotton, but it was necessary to raise the food crops and other necessaries of life which up to this time

*Schwab, *The Confederate States of America*, 6–8.
†von Halle, *Baumwollproduktion*, Vol. II, 231.
‡Schwab, *op. cit.*, 259. §*Ibid.*, 250–266.

LOADING COTTON ON A STEAMER AT NEW ORLEANS.

had been largely purchased in exchange for cotton. Cotton as a crop now gave way largely to the cereals, especially Indian corn. The cotton crop of 1860, the largest ever grown up to that time, had amounted to nearly five million bales, while the crops of 1864 and 1865 are said not to have exceeded a half million bales each.*

AVERAGE ANNUAL PRODUCTION AND EXPORTS OF AMERICAN COTTON FOR FIVE-YEAR PERIODS, 1791–1865, AND AVERAGE ANNUAL PRICES FOR MIDDLING UPLANDS COTTON IN NEW YORK AND LIVERPOOL.†

Years.	Average Annual Production in the United States in Pounds.	Average Annual Exports from the United States in Pounds.	Percentage of Crops Exported.	Average New York Prices for Middling Uplands. Cents.	Average Liverpool Prices for Middling Uplands. Pence.
1791–1795	5,200,000	1,738,700	33.43	31.7	No data.
1796–1800	18,200,000	8,993,200	49.41	36.3	No data.
1801–1805	59,600,000	33,603,800	56.38	25.0	15.4
1806–1810	80,400,000	52,570,400	65.38	18.9	18.4
1811–1815	80,000,000	42,269,400	52.83	14.8	20.5
1816–1820	141,200,000	95,144,800	67.38	26.2	16.7
1821–1825	209,000,000	152,420,200	72.93	16.2	9.2
1826–1830	307,244,400	254,548,200	82.84	10.9	6.5
1831–1835	398,521,600	329,077,600	82.57	11.9	8.0
1836–1840	617,306,200	513,315,800	83.15	13.0	6.7
1841–1845	822,953,800	691,517,200	84.03	7.7	4.7
1846–1850	979,690,400	729,524,000	74.46	8.7	5.2
1851–1855	1,294,422,800	990,368,600	76.51	9.6	5.4
1856–1860	1,749,496,500	1,383,711,200	79.51	11.5	6.7
1861–1865	No data.	No data.	No data.	58.9	19.1

Added to the above difficulties was the fact that the growing of cotton during the war was positively discouraged, both by the Confederate government and the newspapers. This policy was dictated in part by the belief that a reduction in the amount grown would increase the price of the stock on hand, in part to a patriotic desire to render the South independent in the matter of its food supply and in part to a belief that a restriction in the

*Schwab, *op. cit.*, 279.

†This table was compiled from statistics contained in Hammond's *The Cotton Industry* (1897), Appendix I, and *Cotton in Commerce* (1895), prepared in the Bureau of Statistics of the Treasury Department, Washington.

amount grown would, by throwing English cotton operatives out of employment, bring pressure on the British government to recognize the Confederacy and possibly lend its aid in the struggle for independence. In this latter hope the South was doomed to bitter disappointment. The sympathy of the British government was indeed, with the South, but in Lancashire, in spite of the distress caused by the cotton famine, there was the strongest protest against adopting any measures which would prolong the dependence of the English cotton manufacture on slave-grown cotton.

Bibliography.—Brown, William Garrott: *The Lower South in American History* (New York, 1902); Cairnes, J. E.: *The Slave Power* (London, 1863); DeBow, J. D. B. (ed.): *Industrial Resources, etc., of the Southern and Western States* (4 vols., New Orleans, 1852-53); Ellison, Thomas: *The Cotton Trade of Great Britain* (London, 1886); Halle, Ernst von: *Baumwollproduktion und Pflanzungswirtschaft in den nordamerikanischen Südstaaten* (Erster Teil, *Die Sklavenzeit*, Leipsig, 1897; Zweiter Teil, *Sezessionskrieg und Rekonstruktion*, Leipsig, 1906); Hammond, M. B.: *The Cotton Industry* (Part I, *The Cotton Culture and the Cotton Trade, Publications of the American Economic Association*, New Series, No. 1, New York, 1897); Hammond, M. B. (editor): *Correspondence of Eli Whitney Relative to the Invention of the Cotton Gin* (*American Historical Review*, October, 1897, 90-127); Kettell, Thomas P.: *Southern Wealth and Northern Profits* (New York, 1860); Olmsted, Frederic Law: *The Cotton Kingdom* (2 vols., New York, 1862); Phillips, Ulrich Bonnell: *A History of Transportation in the Eastern Cotton Belt to 1860* (New York, 1908); Russell, Robert: *North America: Its Agriculture and Climate* (1857); Schwab, John Christopher: *The Confederate States of America* (New York, 1901); Seabrook, W. B.: *Memoir on the Origin, Cultivation and Uses of Cotton* (1844).

Matthew Brown Hammond,
Professor of Economics, Ohio State University.

THE HISTORY OF CEREAL FARMING IN THE SOUTH.

The wealth of the South has at all times come largely from the first foot of soil. Prior to 1865, its mineral wealth had not been materially developed. Its vast forests had not yet become a source

of any considerable commerce. Instead of being an item of trade, the wealth of tropical tree growth was a hindrance to agriculture and hence to the development of the region. The region as a whole did not depend upon manufacturing as a source of living. The climatic conditions favored life in the country rather than in the cities. Towns existed for the purpose of trade and commerce rather than manufacturing. While, therefore, agriculture was the leading pursuit throughout the United States during the two and one-half centuries under consideration, it was particularly so in the South.

The two great basic sources of wealth for the South were corn and cotton, although without doubt tobacco must be given an important place in the economy of the early colonists, since prior to 1750 it probably contributed more to the prosperity of Southern colonies than any other single crop.

The development of the agriculture of a region depends, among other things, upon its climate, the character of the soil and upon the ease of reaching a market with the crops raised. The South has produced two cash crops which are almost unique in the annals of agriculture throughout the civilized world. For cotton and tobacco are products which bring a relatively high price per pound. One of the chief products of New York agriculture is hay, seldom worth to the farmer more than half a cent a pound. The chief agricultural product of Illinois and Iowa is corn, seldom worth more than one cent a pound; that of Minnesota and Dakota wheat, seldom worth more than two cents a pound, while in many of the states of the South the chief soil product is cotton worth generally from seven to ten cents per pound. In those Southern states not adapted to cotton, an important crop is tobacco which has a similar value per pound.

In the northeastern states the farmer takes a ton of hay to market for which he receives ten to twelve dollars, while an equal weight of cotton or tobacco in the South may bring two hundred dollars. Before the days of railroads this gave the South a decided advantage in marketing crops and made possible an important commerce in those states when agriculture in the more Northern states did little more than suffice for local needs.

In America, and, indeed, in the whole civilized world prior to 1865, the products of agriculture were much smaller per unit of labor than at present. No such advance has been made in the application of labor saving machinery to the production of cotton and tobacco and even corn as that made to the small grains.* The South therefore enjoyed prior to 1865, some advantages, relatively speaking, over other portions of the United States. It had a commerce based upon the products of the soil which was impossible in the more northern states before the introduction of steamboat and railroad transportation. This made a demand for cereal products which in the absence of transportation facilities had to be met locally. It did not then have the competition of the comparatively level, easily tilled prairies on which labor-saving machinery could be used on a large scale.

When it is recalled that "In 1800 the United States nowhere crossed the Mississippi and nowhere touched the Gulf of Mexico," it is to be understood that the production of cereals prior to 1865 was confined to a limited portion of their present area.

The great cereal crop of America is maize, popularly known as Indian corn. This crop has been

*In making this statement the writer has not overlooked the great advance that has been made in the ginning and baling of cotton.

peculiarly identified with the development of the South. Not only did it occupy half the tilled area and furnish the chief diet of the domestic animals, but it entered into the dietary of the people in a most complete manner. Maize meal, sweet potatoes, and syrup were important articles of food. Pork and poultry rather than beef and mutton formed the meat supply. Swine were grown and fattened largely upon acorns and Indian corn. Corn pone or cakes have always been more prized than wheat bread. Other products of wheat flour were used in less quantities than farther north.

The Indians taught all the colonists to raise this native cereal which was widely and extensively grown by the aborigines at the time of the settlement of the South Atlantic states. This cereal and this cereal only had been raised throughout America from Chile to Maine doubtless for many hundreds of years.* It is claimed on the authority of Humboldt that maize was introduced into Mexico by the Toltecs as early as 666.

At the beginning of the Seventeenth century the English farmer was only acquainted with the culture of crops that were sown broadcast and reaped with a sickle. It is not strange, therefore, that the colonists should have required instructions from the aborigines to plant the corn in hills four feet each way and to give it intercultural tillage. Since the early colonists had only hoes and spades and no plows, it is easy to see how well Indian corn was adapted to their primitive conditions entirely apart from its adaptation to soil and climate. The fact that it can be harvested entirely by hand, the ease with which it can be stored in a humid climate as compared with the small grain, and the fact that it

*Exception may possibly be taken to this statement, since one or more species of the Genus Chenopodium was cultivated for its seeds from Mexico to Peru.

can be raised with almost equal facility on an eighth of an acre or on an eighty acre field all made it an ideal crop. Under primitive conditions it is also more easily prepared for cooking than wheat.

Perhaps the first corn raised by white settlers in what is now the United States was on the James River in 1608, when forty acres are said to have been planted under the supervision of two captive Indians.

In 1839 the leading states in the production of Indian corn were in the order named, Tennessee, Kentucky and Virginia. These three states, together with North Carolina, Alabama, Georgia, and Missouri raised that year more than one-half the Indian corn produced in the United States. Twenty years later these same states produced only a little more than one-third of the Indian corn of the country. This was not because they yielded less, but because Ohio, Indiana, Illinois, and Iowa had become more prominent as corn-bearing states.

Indian corn was used in paying taxes in some of the colonies and at times an embargo was placed upon its exportation for fear of shortage for local consumption. There was commerce in this grain with the New England states and in the Eighteenth century a not inconsiderable exportation. Thus, in 1748, South Carolina exported 39,308 bushels; in 1754, 16,428 bushels, and in 1770, 13,598 bushels of Indian corn from Savannah. So, also, in 1753 North Carolina exported 61,580 bushels.

During the 250 years under consideration, the method of cultivating and handling this crop did not materially change. The planting was done by hand. The hoe was the implement of tillage down to about 1835, when the horse cultivators or plows were introduced for the purpose of giving intercultural tillage.

The ears were husked by hand from the standing stalks after which the cattle were turned into the fields to browse. In the earlier period the cattle had little else in winter to eat than the leaves and stalks thus placed at their disposal. Concerning the neglect of the cattle, a Virginian writing in 1842, as quoted by Flint, said, speaking of the period prior to the Revolutionary War, "In those days they were so utterly neglected that it was quite common for the multitudes starved to death every winter to supply hides enough for shoeing negroes on every farm. This was a matter so generally and constantly anticipated, that my own grandfather, as I have heard from unquestionable authority, was once near turning off a good overseer because cattle enough had not died on the farm of which he had supervision to furnish leather for the above purpose."

Later there grew up three methods of making use of the stalks and leaves, viz., shocking, topping, and pulling. By the first method from 5 x 7 or thirty-five hills to 12 x 12 or 144 hills were cut off near the surface of the ground and placed in shocks. After curing in the field, for about a month, the ears were husked by hand and the remaining stover bound in bundles and placed in shocks again, or less commonly the stover was hauled to the barn and stored.

Topping consisted in cutting the stalks off above the ear and placing this upper portion in shocks while the ears were allowed to ripen on the remaining portion of the stalk, when the ears were removed by hand in the usual manner. Pulling consisted in stripping the leaves from the culms while the leaves were still green and the ears immature. While this practice was and has been common throughout the South, the investigations of the

Agricultural Experiment Stations have been unfavorable, indicating a loss in the yield of grain of from ten to twenty per cent.

The white dent varieties of Indian corn were commonly, perhaps almost exclusively, employed in the South. Farther north these white dent varieties were replaced more or less fully by yellow dent varieties, while in still colder latitudes the flint varieties replaced either type of dent varities.

During the period under discussion little attempt was made to improve the fertility of the soil, either through natural manures or commercial fertilizers. Professor Nathaniel S. Shaler, who spent his boyhood in Kentucky, says: "In my youth I never knew manure being put on the land. When, about 1855, my father began the use of it, he was much laughed at. The plan was to till a field until it was worn out, and then let it go to grass or bushes of a kindly nature."

Washington, writing to Arthur Young from Mount Vernon in 1787 said: "The cultivation of tobacco has been almost the sole object with men of landed property, and consequently a regular course of crops have never been in view. The general custom has been, first, to raise a crop of Indian corn (maize), which, according to the mode of cultivation, is a good preparation for wheat, then a crop of wheat, after which the ground is respited (except from weeds and every trash that can contribute to its foulness) for about eighteen months; and so on, alternately, without any dressing, till the land is exhausted; when it is turned out, without being sown to grass seeds, or reeds, or any method taken to restore it, and another piece is ruined in the same manner. No more cattle are raised than can be supported by lowland meadows and swamps, etc., and the tops and blades of Indian corn, as very few people attended to sowing

OLD METHOD OF HARVESTING WHEAT ON SOUTHERN FARMS.

grasses and connecting cattle with their crops. The Indian corn is the chief support of the laborers and horses. Our lands, as I mentioned in my first letter to you, were originally very good; but use and abuse have made them quite otherwise."

It is recorded that within two weeks of the landing at Jamestown, the colonists began sowing wheat. According to Captain John Smith, the following winter the colonists lived on fish, game, maize bread, peas and pumpkins, only a small part of which had been obtained by their own industry. The reason that wheat bread is not mentioned and that later the colonists were disposed to limit the raising of wheat is not far to seek. This region is not adapted to raising spring wheat as first attempted by the colonists. Neither are English varieties adapted to fall seeding in this country. The varieties of winter wheat which have been found best adapted to America originated on the Continent and not on the British Islands. The adaptation of European crops and varieties to American climatic and soil conditions was a slow, laborious, and expensive process.

Only limited portions of the South have ever been adapted to raising wheat, and Jamestown does not lie within the favored region. Only the more northerly and more elevated portions of the South are friendly to its cultivation. The coastal plain has never been extensively used for this purpose. The disposition in the Jamestown colony to raise Indian corn rather than wheat is shown in the law by which every tithable person was required to cultivate two acres of maize or one acre of wheat. Nevertheless the culture of wheat increased in the colony until, in 1648, there were several hundred acres of it. Its cultivation, however, soon after fell into great disfavor on account of

the greater profit from tobacco. During the next hundred years it was but little sown. About 1750, on account of the diminishing returns from tobacco, Maryland and Virginia again extended the cultivation of wheat. Prior to the American revolution wheat was exported to a limited extent to the West Indies and elsewhere.

In more recent years, the cultivation of small grain has been largely modified by the application of labor-saving machinery. Even before the introduction of the reaper, however, the South raised relatively less of the small grains than of Indian corn. In 1839, when all small grain was yet reaped with a cradle, Virginia, Tennessee, and Kentucky raised 23 per cent. of the wheat and oats produced in the United States while raising 32 per cent. of the Indian corn. In the same year more than one-half of the Indian corn and less than one-third of the wheat and oats were produced in the Southern states. The sickle was commonly used at the time of the American revolution but the cradle had largely succeeded it by the close of the Eighteenth century. Although the first practical grain reaper invented by Cyrus McCormick was used in Virginia as early as 1831, the cradle continued to be the chief implement for cutting small grain until the middle of the Nineteenth century. In 1845 the reaper was still a curiosity, while by 1855 its use, though increasing, was far from general.

With the exception of the cradle, the use of improved farm machinery did not begin much if any before the general introduction of the cast-iron plow, about 1825. That is to say, the use of improved machinery prior to this date was not sufficiently common to exert any economic influence. Although used earlier the threshing machine was introduced rather rapidly between 1820 and 1840,

so that after the latter date the flail was rarely used or the treading out by cattle rarely practised. During the latter part of the Eighteenth century a large wooden roller armed with wooden pins eighteen to thirty inches long was brought into use in Maryland. The fanning mill came into use between 1775 and 1825.

Since horses were used comparatively little by the early colonists in their agricultural operations, it is probable that oats were not extensively grown. However towards the close of this period oats had come to occupy an important place, as shown by the following table.

TABLE SHOWING THE YIELD IN BUSHELS OF THE CEREAL CROPS IN 1849, ACCORDING TO THE SEVENTH CENSUS.

	Wheat.	Rye.	Indian Corn.	Oats.	Barley.	Buckwheat.
Maryland	4,494,680	226,014	10,749,858	2,242,151	745	103,671
Virginia	11,212,616	458,930	35,254,319	10,179,144	25,437	214,898
N. Carolina	2,130,102	229,563	27,941,051	4,052,078	2,735	19,427
S. Carolina	1,066,277	43,790	16,271,454	2,322,155	4,583	283
Georgia	1,088,534	53,750	30,080,099	3,820,044	11,501	250
Florida	1,027	1,552	1,996,809	66,586	.....	55
Alabama	294,044	17,261	28,754,048	2,965,696	3,958	348
Mississippi	137,900	9,606	22,446,552	1,503,288	228	1,121
Louisiana	417	475	10,266,373	89,637	.....	3
Texas	41,729	3,108	6,028,876	199,017	4,776	59
Arkansas	199,639	8,047	8,893,939	656,183	177	175
Missouri	2,981,652	44,268	36,214,537	5,278,079	9,631	23,641
Kentucky	2,142,822	415,073	58,672,591	8,201,311	95,343	16,097
Tennessee	1,619,386	89,137	52,276,223	7,703,086	2,737	19,427
Total South	27,410,915	1,610,174	355,846,729	49,278,455	161,851	399,455
The United States	100,485,944	14,188,813	592,071,104	146,584,179	5,167,015	8,956,912
South, per cent.	27	11	60	33	3	5

The yield of oats in the South in 1849 was approximately fifty million bushels or one-third of the total yield in the United States. At the same time the yield of wheat was twenty-seven million and that of Indian corn three hundred fifty-six bushels. Rye, barley, and buckwheat, always minor crops in the United States, have been particularly unimportant in the South. Rye and buckwheat have been confined almost exclusively to the Appalachian region.

TABLE SHOWING THE YIELD IN BUSHELS OF THE CEREAL CROPS IN 1859, ACCORDING TO THE EIGHTH CENSUS.

	Wheat.	Rye.	Indian Corn.	Oats.	Barley.	Buck-wheat.
Maryland	6,103,480	518,901	13,444,922	3,959,298	17,350	212,338
Virginia	13,130,977	944,330	38,319,999	10,186,720	68,846	478,090
North Carolina	4,743,706	436,856	30,078,564	2,781,860	3,445	35,924
South Carolina	1,285,631	89,091	15,065,606	936,974	11,490	602
Georgia	1,544,913	115,532	30,776,293	1,231,817	14,682	2,023
Florida	2,808	21,306	2,884,391	46,899	8,369	.....
Alabama	1,218,444	72,457	33,226,282	682,179	15,135	1,347
Mississippi	587,925	39,474	29,057,682	221,235	1,875	1,699
Louisiana	32,208	36,065	16,853,745	89,377	224	160
Texas	1,478,345	111,860	16,500,702	985,889	67,562	1,349
Arkansas	957,601	78,092	17,823,588	475,268	3,158	509
Missouri	4,227,586	293,262	72,892,157	3,680,870	228,502	182,292
Kentucky	7,394,809	1,055,260	64,043,633	4,617,029	270,685	18,928
Tennessee	5,459,268	257,989	52,089,926	2,267,814	25,144	14,481
Total South	49,157,701	4,070,475	433,067,490	32,163,229	735,967	950,742
The United States	173,104,924	21,101,380	838,992,742	172,643,185	15,825,898	17,571,818
South, per cent.	22	19	52	19	5	5

BIBLIOGRAPHY.—Bailey, L. H.: *Cyclopedia of American Agriculture* (Vol. IV, New York, 1909); Brewer, Wm. H.: *Report on the Cereal Production of the United States* (Tenth Census of the U. S., Vol. Agr.); Bruce, Philip A.: *Economic History of Virginia in the Seventeenth Century* (2 vols., New York, 1896); Flint, Chas. L.: *One Hundred Years' Progress* (U. S. Dept. Agr. Rept. 1872).

THOMAS F. HUNT,
Dean of School of Agriculture and Director of Experiment Station, Pennsylvania State College.

GRASS AND FORAGE CROP FARMING IN THE SOUTH.

IT has become more or less customary to regard the great prairies, steppes, and savannas of the several continents as the great natural grass lands of the earth. Comparatively treeless portions of Australia, northern Africa, Russia, Argentina, Brazil, and of the western United States are the conspicuous geographical areas thus included. These are largely grass lands in the sense that grass is the pre-

ponderant native vegetation. The regions are climatologically natural grass lands. The grasses which thrive best, however, are such as are able to withstand dry conditions, a low annual precipitation, or a moderate precipitation poorly distributed. There is in such areas a scarcity of valleys and water courses, and there may be frequent fires. Certain grasses, generally the tougher sorts, thrive in such an environment better than other herbaceous plants, and forests are wholly unable to survive. Nevertheless, under such conditions we may not find a relatively heavy yield of grass; and the hay crop is frequently small and irregular. Again, marsh lands and brackish meadows may yield only grass; but grass growing and hay production as industries are best developed in a temperate or warm temperate climate with fairly abundant rainfall, conditions which generally prevail in the South.

In all sections of North America the first century of hay and forage farming was essentially an experimental period,—one arising out of isolated experiments, the results of which were known only locally. In the Southern states this experimental period may be regarded as having extended in a general way over nearly two centuries; and, in fact, recognition of an effective and permanent system of hay and forage production is of very recent date.

All of the agricultural problems which presented themselves to the early settlers were complicated by the fact that the colonists brought with them practices to a large extent inapplicable to the new conditions. The problem of the meadow had been largely solved in Europe much earlier, and there were, both for pasture and for hay, grasses adapted to the well-known conditions. The first endeavors of the colonists to cultivate European forage plants were generally failures, and these failures immediately

initiated the long period of experimental effort. In grass farming, particularly, the conditions were peculiar. The wild grasses were numerous, numbering several hundred species more or less common throughout the South. From what we know of these plants at present, and from what can be learned from such early correspondence and reports as have been published, it appears that these grasses seemed at first to offer excellent pasturage. In time, however, those which were more generally tried proved inadequate, for most of the best species were not readily maintained from season to season as pastures. On the other hand, grasses of one sort or another were able to grow throughout a large portion of the year; and it was natural that the climatic conditions impelled the planter to the belief that hay-making or the storing of grass for winter use, should be considered a relatively unnecessary part of agriculture in the South.

Speaking generally, an excellent pasturage in some sections, and at least a fair pasturage commonly, was afforded throughout three-fourths of the year, or more; so that thus encouraged much effort was directed towards securing species of grasses which would make this pasturage practically continuous. Every section offered special possibilities in native plants. In certain portions of the Gulf States where the swamp or scrub-cane (*Arundinaria macrosperma* and *A. tecta*.) were native there was promised a solution to the problem. This cane grows through the winter, and it was hoped that low-lying lands might be made use of as permanent winter pastures. This hope has never been realized except possibly in small localities. The cane has practically disappeared from large regions where it once formed a conspicuous part of the vegetation. It was found to seed infrequently, to become established slowly,

and it was not in any peculiar manner adapted to the general requirements.

It is difficult to picture the conditions of forage production without taking into consideration the influence of the cultivation of Indian corn. Corn had come into general use as food for man and beast. Much fodder was obtained from this plant, as we now know at a great expense to the yield of grain, by stripping off the leaves somewhat previous to the maturity of the ears. This fodder, gathered at a great expense of labor, formed a very large portion of the fodder crop of the South which was fed to the work animals of the farm. Moreover, during the winter months the remaining corn stover in the field, together with the crab grass (*Digitaria sanguinalis*), common over a large portion of the country, afforded a kind of winter pasturage, or forage, sufficient, it was thought, for the roughage, or even for the entire maintenance, of many animals—especially cattle not furnishing milk.

The invention of the cotton-gin, leading, in the early part of the Nineteenth century, to the rapid development of cotton-growing intensified the already existing tendency towards a one-crop system of planting. This system of farming was, however, to a considerable extent enforced by a variety of conditions which are discussed elsewhere in this volume. It undoubtedly made possible that exceptional progress which the South then enjoyed. At the same time it was, under the management of all save the best planters, a notable factor in bringing about the deterioration of the land. In the absence of mixed farming, or the supplementary production and feeding of many animals, there was soon observable a scarcity of fertilizers for the land. The only salvation for this method lay in the fact that when land became too poor to cultivate it was again turned into

pasturage, and then with proper management was again in a few years brought into a better state of fertility. On the other hand, in sections where the native grasses did not afford successful pasturage, the land turned over to this purpose did not afford sufficient growth of close-growing grasses to prevent disastrous washing and gulleying of the soil during the severe rains of the spring and summer.

There is little or no record of the hay crop North or South prior to the Revolution, and this product first appears among the Census items of 1840. At that time the hay crop of the state of New York was approximately four times that of the entire South. In fact the hay crop of Vermont about equaled that of the South. In that year the hay crop of the country was given as 10,248,108 tons and that of all the Southern states was 825,387 tons, or about one-thirteenth of the total. Ten years later, 1,107,623 tons were produced; but the yield bore the same relation to production in the state of New York. It is true that in considering the hay crop we disregard entirely the matter of pasturage, and it is probable that the farm value of the pasturage crop in the country as a whole is at least equal to that of the hay crop. In the South the proportionate value of the pasturage crop has been far in excess of hay, and this was particularly true during the whole period preceding the war, so that the statistics regarding total grass production may ony be assumed. The same necessity did not exist at the South, owing to its short winter, for the housing of live stock as at the North, and the demand for hay and forage was consequently much less. From early colonial times the cattle and live stock had been very generally allowed to range in the woods, waste lands, and savannas as the climate did not require their housing.

From the time that railroads were able to trans-

port at a moderate cost farm products from one part of the country to another, Southern cities began to depend for hay upon the markets of the North. The Southern farmer was to a considerable extent independent, but cotton production became so overwhelmingly important that planters as well as others would often find it necessary to depend upon an outside supply.

It should not be understood, however, that the progressive Southern planters were content, even during the early part of the Nineteenth century, to see this condition develop further. We find therefore that representative planters everywhere were alert to the introduction of new forage crops, and through the whole region they experimented with everything native and anything promising which could be secured from foreign countries. Here and there through the various states unusual success was attained with one plant or another, but the dissemination of knowledge regarding the uses and adaptations of the crops experimented upon was necessarily slow. Agricultural societies had existed, it is true, since the organization of the Society for the Promotion of Agriculture in Charleston, August, 1785. Nevertheless, during the early part of the Nineteenth century there were few opportunities for the average planter to become familiar with the practical results of the work of his countrymen throughout the South. During the quarter century immediately preceding the war two phases of general agricultural development stood out prominently. First there was great development in the line of agricultural literature. An agricultural press came into existence, and the United States commissioner of patents instituted an annual agricultural report founded upon letters and statistics furnished by correspondents throughout the country. With the establishment of adequate

means of communication most gratifying results were achieved. Agricultural literature gives evidence of the fact that experiences and practices were promptly contributed. An analysis of the data actually furnished to the press during this period shows, when taken all together, an immense experimental outlay. In one place or another alfalfa (lucerene), cowpeas, lespedeza, and clovers of various sorts had received careful attention. Again, Bermuda grass, guinea grass, paspalum, crab grass, Johnson grass, millets, sorghum, and a variety of other forage-yielding plants, had been tried on many types of soil. In fact, they had been grown on types of soil ranging from the light sands of the Atlantic and Gulf coasts to the heaviest clays of the Piedmont region, or to the rich prairie lands of Central Alabama and Texas. Nevertheless, it could not be said that there had been developed up to the war any hay crops for the South comparable with timothy and red clover in the North.* While the pasturage was sufficient to produce the cattle and sheep required, the dairy products were scarcely sufficient to supply the demands of the home trade. In Kentucky and Tennessee alone

*STATISTICS OF HAY—1840–1860.
(Data for Maine and New York for comparison.)

States.	Production. (1840)	(1860)
Maine	691,358	755,889
New York	3,127,047	3,728,797
Indian Territory and Oklahoma	no data	no data
Missouri	49,083	116,925
Maryland	106,687	157,956
Virginia	364,708	369,098
North Carolina	101,369	145,653
South Carolina	24,618	20,925
Georgia	16,960	23,449
Florida	1,197	2,510
Alabama	12,718	32,685
Mississippi	171	12,504
Louisiana	24,651	25,750
Texas	3,000*	8,354
Tennessee	31,233	74,091
Kentucky	88,306	113,747
Arkansas	586	3,976
Totals for South	825,387†	1,107,623†

*Estimated. †Excluding Indian Territory and Oklahoma.

the production of finer animals was becoming an established industry. With this came a special consideration of pasturage and the final development of the renowned blue-grass region of the former state.

BIBLIOGRAPHY.—DeBow, J. D. B. (ed.): *Industrial Resources, etc., of the Southern and Western States* (4 vols., New Orleans, 1852-53); Goodloe, Daniel R.: "Resources and Industrial Conditions of the South" (in *Report* of U. S. Commissioner of Agriculture (Washington, 1865); Howard, C. W.: "Grasses for the South" (in *Report* of U. S. Commissioner of Agriculture, 1860, pp. 224-239); United States Census *Reports* (Washington, 1840, 1860); *Reports*, United States Commissioner of Agriculture (contained in *Reports* of Patent Office (Washington, 1841-1860); *Report on Cereal Production in the United States* (United States Tenth Census, Washington, 1883); Incidental indications in various books not bearing directly upon this subject; Addresses; *Reports* of agricultural societies, etc.

BENJAMIN M. DUGGAR,
Professor of Plant Physiology, Cornell University.

SOUTHERN HEMP AND FLAX PRODUCTION.

WHEN Heriot visited Raleigh's plantations in North Carolina, in 1585, he suggested the possibility of supplying England with hemp and flax from the new colony. Raleigh was then absorbed with his tobacco experiments, and was not at all interested in flax; but Heriot's idea drew the attention of the British shipping interests, which were rapidly expanding. Hemp and flax were absolute necessities in shipbuilding, and their culture had long been compulsory in England; but the home supply was always inadequate, and the Dutch controlled the great hemp and flax region around the Baltic.

The failure of Raleigh's colonies was a great disappointment; but as soon as the Jamestown settlement had provided for a regular food supply, the Virginia Company compelled every household to

grow a certain amount of hemp and flax. Governor Berkeley had great hopes in this direction, and before he left England he assured Parliament that he would be able to supply all of Great Britain's hemp and flax within seven years.

As soon as the Virginia legislators met, in 1619, they took up the subject of hemp and flax culture. As a preparation for war, the county courts were ordered to distribute a quart of flax seed and a quart of hemp seed to each "tithable;" and at the end of every year each tithable had to deliver to the tithing master one pound of dressed hemp and one of flax, or two of either, and swear that it was of his own growth. This law was in effect for several years, but its compulsory tone was resented, and the system was finally changed to one of bounties. As a local industry, flax culture seems to have been pretty well established; but as furnishing a staple for export to England it can hardly be deemed a success. Both the Virginia House of Burgesses and the British parliament offered bounties for hemp, "water rotted, bright and clean," actually shipped across the Atlantic, but there is little to show that the colonists took advantage of their opportunity. A little hemp was undoubtedly exported, by William Byrd of Westover and other Virginia notables, but the total amount must have been very small.

In 1663 the Virginia and Maryland planters formed an association or pool against the tobacco merchants, and decided to raise no tobacco that year, but to plant hemp and flax instead. This scheme failed, since the Maryland government would not coöperate with the Virginia government in enforcing the project; but Hugh Jones tells of another ambitious plan for "seating all convicts that should be imported into Virginia, in a county by themselves, under the care of proper overseers, who should con-

fine them from doing any hurt, and keep them to their labor by such methods as are used in Bridewell. The land intended for this new county is very good, and fit to produce hemp and flax, which they were there solely to cultivate and manufacture; from whence the county was designed to be called Hempshire. Though this project was never put into execution, yet I am of opinion that something of this nature would be very advantageous . . . because we [the British] are in a great measure obliged, for these, to foreign nations, who in case of war, might pinch us more prodigiously than they do; more particularly to the great expence and inconveniency of our shipping, the glory and bulwark of the British nations." One would infer, from this, that negro labor was unfitted for hemp and flax culture, and that Virginia had never been able to supply England.

For nearly two hundred years after the first settlement of Virginia the colonists of Maryland, Virginia, and the Carolinas kept close to tidewater, where they could sell their tobacco and buy their cloth in England. The clothing for the negroes was made on each plantation, usually by negro women. The warp was necessarily of hemp or flax thread, while it was easier to make the filling of wool or cotton, according to the locality. It was only as population began to press back into the interior, that flax culture and homespun began to reach really large proportions. Especially was this true in western Virginia, western North Carolina and later in Kentucky, which have always produced the great bulk of the hemp and flax in America. These remote settlements were long cut off from trade, and were compelled to make everything they used; and on the plantations of Kentucky and Tennessee, where there were many negroes to clothe, and labor was very

cheap, household spinning and weaving continued almost down to the Civil War. The mountaineers made their own linens and linsey-woolseys even after Kentucky and Missouri had ceased to raise flax, except for its seed.

The discovery of the Blue Grass region of Kentucky, in 1769, marks the real beginning of the hemp industry in the South. The first crop on record was grown in 1775, and was so successful that hemp quickly became as dominant in Kentucky as tobacco was in Virginia. Every kind of cloth, sheeting, bagging, carpet, cordage, paper and other textile or tensile fabric was made of hemp, and it was taken in payment for all debts. Flax culture was also tried, but hemp would yield three or four times as much fiber to the acre, with less work; and all the processes of growing, preparing, and manufacturing hemp could be done by negro labor. From Kentucky, hemp culture also spread to Tennessee, Arkansas, and Missouri, and for a few years Missouri led all the states in hemp production. In fact, it was largely the hemp interests which decided that Missouri was to be a slave state, and which nearly brought Kansas into the same category. It was the hemp interests of Kentucky which sent Henry Clay to Congress, and forced the establishment of the Protective System in the United States.

After supplying their own needs, the Kentucky hemp growers sent large quantities to the Spaniards at New Orleans, and also shipped through Pittsburg to the East. The largest market was later found in supplying bagging and rope for covering cotton bales, and Kentucky also made much negro-cloth and canvas of hemp, using about 20,000 tons a year. Almost from the beginning these goods were made in factories. Until 1789 "country linen" figured in the local markets; but in that year the Kentucky Society

for the Encouragement of Manufactures was organized, and factories were built by means of lotteries. In 1802 sixty-five of the Kentucky hemp manufacturers petitioned Congress for protection to the hemp, cordage and sail duck interests. Nevertheless, as late as 1855 the county fairs were still offering premiums for homespun hemp linen.

During the Civil War hemp and flax came into prominence, owing to the cotton famine. There was not time to develop special machinery, and great efforts were made to "cottonize" hemp and flax, so that they could be used on cotton machinery. To a slight extent, too, homespun cloth was made, but this was chiefly of cotton or wool, and accurate figures are not obtainable.

In 1810 Virginia made 4,918,273 yards of flaxen homespun, most of it reported from the western counties. The amount of homespun linen was not reported from the other Southern States, but it must have been very large in North Carolina and Kentucky. Virginia reported only 13,381 spinning wheels, while North Carolina had 128,484 spinning wheels and 40,978 looms running. Kentucky had 23,559 looms, producing $2,216,000 worth of cloth. Georgia had 20,058 spinning wheels and 13,290 looms, and produced 24,000 yards of mixed hemp and flax goods and hemp bagging, besides great quantities of cottons. Virginia made 28,902 gallons of flaxseed oil; Maryland, 16,375 gallons. Maryland made cordage (mainly hempen) to the value of $561,800; Kentucky, $398,400; District of Columbia, $392,000; Virginia, $162,000. The amount of flax was not reported. Hemp was reported only for Kentucky, amounting to 5,755 tons; but the crop then growing yielded over 30,000 tons for export, besides bagging, bale rope, and other hemp fabrics.

In 1840 the Census reported hemp and flax to-

gether. East Virginia raised 8,945 tons, and West Virginia raised 16,648 tons; Missouri produced 18,000 tons, and Kentucky reported 9,992 tons; North Carolina, 9,878 tons; Tennessee, 3,344 tons; Arkansas, 1,039 tons; Maryland, 488 tons; Mississippi produced 16 tons; Georgia, 10; Alabama, 5; Florida, 2 tons.

In 1850 Kentucky produced 17,787 tons of hemp; Missouri, 16,028 tons; Tennessee, 595; Virginia, 139; Maryland, 63; North Carolina, 39; Arkansas, 15; Mississippi, 7 tons of hemp. Kentucky also raised 2,100,000 pounds of flax; Virginia, 1,000,000 pounds; Missouri, 627,160 pounds; North Carolina, 593,796 pounds; Tennessee, 368,131 pounds; Maryland, 35,686 pounds; Arkansas, 12,291 pounds; Georgia, 5,387 pounds; Alabama, 3,921 pounds; Texas, 1,048 pounds; Mississippi, 665 pounds; South Carolina, 333 pounds; Florida, 50 pounds.

In 1860 Kentucky produced 39,409 tons of hemp, and 340 tons of flax; Missouri, 19,267 tons of hemp and 50 tons of flax; North Carolina, 3,016 tons of hemp and 100 tons of flax; Tennessee, 2,243 tons of hemp and 70 tons of flax; Arkansas, 447 tons of hemp and about 2 tons of flax. In 1860 Kentucky made cordage worth $1,240,800; also, 5,750,000 yards of bagging, while Missouri made 3,680,000 yards.

When the principal cotton-growing states were blockaded by land and sea in 1861, the markets of those states were glutted with cotton, and other fibres were not needed. Elsewhere there was a cotton famine, and the demand was very strong for hemp and flax. Kentucky and Missouri were usually outside of the more disturbed area, and persons now living say that the hemp crop in those states was very large during the whole of the war. This is also borne out by the very high prices paid for hemp and hemp lands; but in the excitement of the times, no

statistics were kept, and the newspapers took no notice of the subject. In the North there was considerable interest felt in the possibility of supplying the fibre market with flax, and the samples of "cottonized" hemp and flax from Kentucky and West Virginia caused the Federal Congress to appoint a special Commission, in February, 1863, to report on the general subject. However, the great amount of hand labor required in the culture of hemp and flax made it less practicable, as the slavery system gradually disintegrated in Kentucky and Missouri. Iron ties for cotton bales were generally introduced throughout the South in 1864, and this destroyed one of the largest markets for hemp. Tobacco culture gradually supplanted hemp and flax in Kentucky and wheat culture displaced it in Missouri and Maryland.

Bibliography.—Bradley, W. O.: Speeches on "Hemp" in United States Senate (61st Cong., 1st Sess., Washington, 1909); Boyce, S. S.: *Hemp* (New York, 1900); Carter, H. R.: *Modern Flax, Hemp and Jute Spinning* (London and New York, 1907); Dodge, C. R.: *Report on Flax, Hemp, Ramie and Jute* (Dept. of Agri., Div. of Statistics, Washington, 1890); *Flax for Seed and Fibre in the United States* (Washington, 1895); *Hemp Culture* (*Yearbook*, Dept. of Agri., Washington, 1896), and *Present Status of Flax Culture in the United States* (*Yearbook*, Dept. of Agri., Washington, 1897); Hartshorn, E. A.: *American Hemp Culture* (New York, 1888); Moore, T. B.: *Hemp Industry in Kentucky* (Lexington, 1906); Peter, Robert: *Hemp Analysis* (Kentucky Geol. Surv., Frankfort 1877); *Tariff Hearings, Schedule J*, Committee on Ways and Means (Washington, 1909); Chicago Board of Trade: *Reports* on Flax-Seed Inspection, Hemp and Flax Spinners and Growers Association: *Annual Reports* (Boston, 1883-1889).

Thomas Brent Moore,

Author of "Hemp Industry in Kentucky," etc.

VEGETABLES, FRUIT AND NURSERY PRODUCTS, AND TRUCK FARMING IN THE SOUTH.

The development of vegetable, fruit, and nursery industries in the South prior to 1865 had not assumed the important commercial proportions which characterize these industries at the present day. The reasons are not hard to discover, since population was comparatively sparse, labor sorely needed for the production of such staple crops as corn and cotton, and the numerous large cities which now constitute great centres in the United States were still in their infancy. Previous to 1850 there was much vacant land, comparatively speaking, in all of our large cities, and practically every home maintained a garden of sufficient size to supply the needs of the family. There was thus not so much demand for vegetables and fruits as at the present time. It is also probably true that a vegetable diet and the medicinal virtues of fruits are much more highly prized now than they were seventy-five years ago. It is but natural that this should be the case since science has revealed so much with reference to the diet best suited for the maintenance of man. In the early days there were no adequate means of transportation by either rail or water, and, of course, all familiar with the perishable character of fruits and vegetables realize that without these agencies the industry could never hope to develop to any considerable proportions. The trucking areas now so famous were then unknown and represented largely by wild or indifferently cultivated lands.

Notwithstanding these facts, the foundation was laid previous to 1865 for the development of the great vegetable and fruit industries which now char-

acterize the Southern states. It took many years of patient toil and endeavor on the part of the pioneers in these industries to gather together the native apples, develop some justly celebrated strains of peaches, and introduce the other fruit and truck crops which are now so generally cultivated. It took a long time to determine just what constituted the best truck soil, and the best method of procedure for its development and for the shipment of the product therefrom to the consuming centres in an edible condition.

The development of the now justly celebrated trucking area adjacent to Norfolk, Virginia, was commenced about 1850. The steamer *Roanoke* in 1854 carried two hundred barrels of truck to New York. At that date refrigeration was unknown, and the packages were carried on the upper deck, and the trip occupied such a long time that the vegetables frequently reached their destination in a condition unfit for use. Previous to 1865 Norfolk was one of the few points which attracted any considerable attention as a trucking area. The industry had not developed to any appreciable extent at such celebrated centres as Newbern and Charleston and various points in Florida; in fact it was not thought in some of these places that the soils were worth much for cultivation, much less suspected that they were ideal for the purpose of trucking, and would one day attract the attention of the entire country, not only for the excellence of the product produced thereon, but for the wealth accumulated by reason of their exploitation.

The preserving of corn was first undertaken at Portland, Maine, in 1840, and California fruits were first preserved about 1861. In Maryland some 8,000 cans of goods were put up in 1865. It will thus be seen that the canning industry as a commercial en-

terprise was making commendable progress in one of the Southern states at an early date, and would have reached considerable proportions but for the interference resulting from the war. The commercial canning of fruits and vegetables, however, did not exist as an industry in the old South. Of course, much fruit was preserved on the plantations. Some of this came from the modest orchards which were planted at an early date, but most of it represented wild fruit gathered by the negro hands. These fruits were preserved under the direction of those estimable ladies who made the stately colonial homes of the ante-bellum days famous for the cuisine they provided. Likewise the management of the gardens was frequently left largely to their direction, but the supplies raised therein were oftentimes inadequate to meet the needs of home consumption. Not as great a variety of vegetables was cultivated as found favor later. While as a rule the Southern plantation owner produced the larger part of all the food supplies needed for the support of his establishment, there was always a belief that the production of cotton and tobacco and other staples was more profitable, and to be prosecuted at all hazards rather than to set aside any considerable area for the production of what would now be regarded as truck crops. As a result of this practice, such staple vegetables as Irish potatoes were frequently imported into the South prior to 1865.

In 1850 the Irish potato crop produced in the South Atlantic states amounted to 3,102,183 bushels; in the South Central states, to 4,390,929 bushels, or 5.0 and 6.6 per cent. respectively of the total crop produced in the United States. The industry had not assumed any considerable proportions as this quantity of potatoes would easily be required to feed the resident population. In 1860 the potato crop in

the South Atlantic states amounted to 4,968,375 bushels; and in the South Central states to 6,722,199 bushels. This represented 4.5 and 6.1 per cent. respectively of the total crop produced in the United States. The Irish potato-growing industry had therefore not assumed any considerable commercial importance previous to the war.

The production of peas and beans had not developed to any material extent in the first half of the Nineteenth century. The cowpea, which was probably grown more extensively than the bean, and used to a very considerable extent for food on the plantations of the South was first reported to have been introduced from Great Britain into the English settlements in Georgia about 1734. The cultivation and use of this crop spread rather rapidly, but little is known about the early history of one of the most important economic plants now cultivated in the South. It is thought, however, that in the early part of the century it was not grown extensively for the purpose of soil renovation, for its ability to gather nitrogen from the air through the bacteria living in the nodules found on its roots is a comparatively new discovery. It is safe to say that the cowpea had comparatively little commercial importance previous to 1865.

The peanut is supposed to have been introduced from Brazil, but just when is a matter of uncertainty. It is known that it was cultivated for some years prior to 1865. At that time, however, it was planted in but a limited area of eastern Virginia. The development of the peanut industry immediately after the close of the war was something phenomenal. It is supposed that this was due in a measure to the knowledge acquired of it during the war, since the section of Virginia to which it is especially well adapted was more or less occupied by both Northern

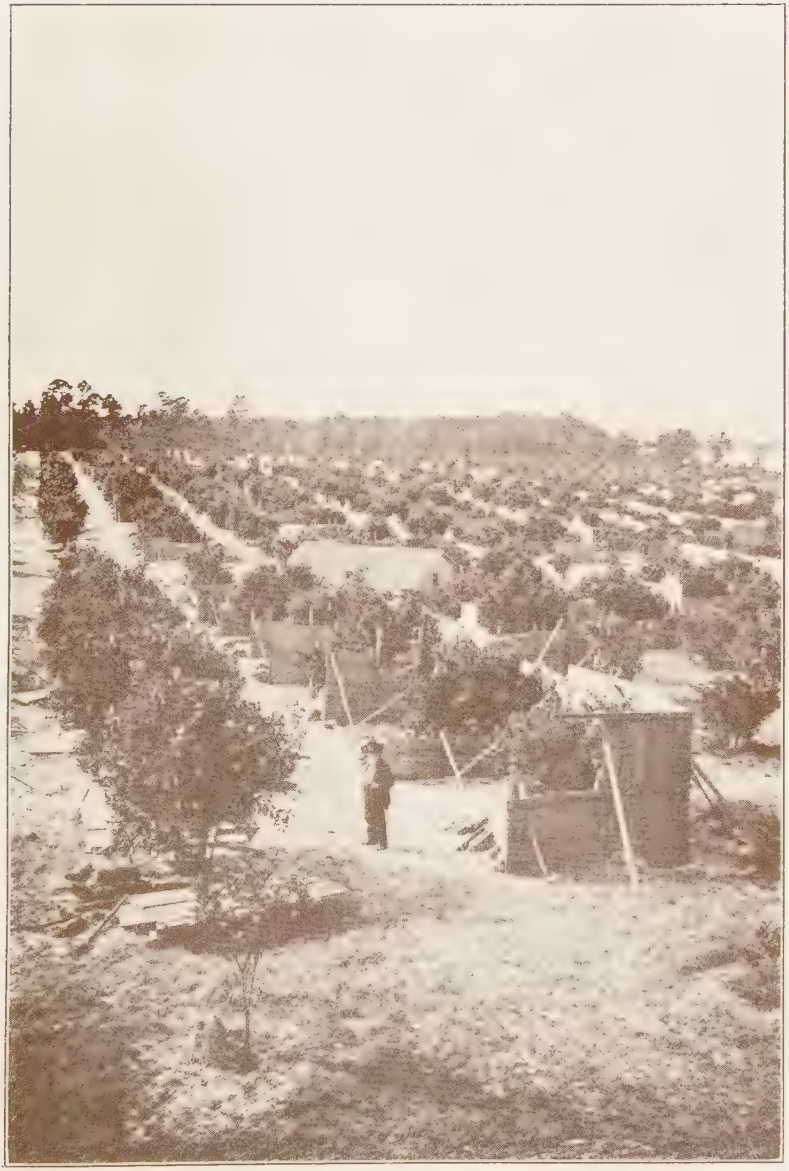
and Southern armies. The cultivation of the peanut previous to 1865 may be said, therefore, to have been of minor importance.

The first attempt at growing hops in the United States is said to have been in what was then known as the New Netherlands in 1629. In Virginia the cultivation of this crop was not commenced until 1648. Virginia is supposed to have been the first Southern state to attempt the growing of hops, and although the industry was encouraged by special legislation about 1657, it assumed but relatively little importance until the year 1800. Hop cultivation in the South, however, has never made any substantial progress either prior to 1865 or since that date.

What has been said of hops also applies with equal force to broom corn, the cultivation of which is supposed to have been commenced about 1789 at Watervliet, New York.

It was not until the twelfth Census that any definite attempt was made to secure reports concerning the value of fruits and nuts. As a result, it is difficult to determine the status of fruit and nut culture in the Southern states previous to 1865. Undoubtedly, however, some attention was given to the cultivation of fruits in the South prior to the coming of the white man. Certainly the Indians of the central South knew of and appreciated the value of wild grapes, berries, and nuts. These they gathered, dried and stored for use during the winter, but owing to the sparsity of the Indian population and the abundance of the natural supply, but little if any attention was given to cultivation.

Menendez, a Spaniard, is the first white man credited with planting fruit trees in the South, he having set out oranges at St. Augustine, Florida, about 1562. A vineyard of native grapes was planted in Maryland by Lord Delaware about 1610, and grapes



A FLORIDA ORANGE GROVE.

are reported to have been growing at Jamestown, Virginia, in 1619. Abraham DeLyon, a Portuguese, grew grapes at Savannah in 1737. In 1751, or thereabout, the growing of mulberries for the maintenance of silk worms was undertaken in Georgia. This industry flourished until about the end of the Revolutionary period. About 1800 Jarvis Van Buren, of Clarkesville, Georgia, and Silas McDowell, of North Carolina, undertook to make a collection of native apples, and to them we owe much for their foresight and industry. Another celebrated pomologist of an early date was Mr. W. N. White, of Athens, Georgia, who collected and cultivated numerous fruits, and left his observations in a book entitled *Gardening for the South.* The Honey peaches were supposed to have been first fruited by Mr. Henry Lyons, of Columbia, South Carolina, in 1856. In 1857 some were propagated at the Fruitland Nurseries of P. J. Berckmans, near Augusta, Georgia.

The apple and peach industries of the South are thus of rather recent origin, save for the sporadic attempts made to cultivate these fruits for home use. In 1854 Major LeConte, of Georgia, called the attention of the world to the famous pear which bears his name, and which has since spread rapidly throughout the South, and is one of the leading varieties of commercial pears now grown.

The nursery business in the South may be said to have been given its first impetus by Jarvis Van Buren and John R. Stanford, of Clarkesville, Georgia, who were certainly among the first men to disseminate apple and peach trees. In 1852 Peters, Harden & Co., formed a nursery near Atlanta, Georgia, and about the same time Mr. F. A. Mauge started one near Augusta, Georgia. The first definite attempt made to ship peaches from Georgia to

New York was in 1858. The experiences attending these shipments were varied, but unsatisfactory as a whole, and the peach industry for which Georgia is now celebrated has been developed within the past few years, and the same may be said of the watermelon industry and many other enterprises for which the Southern states are now justly famous.

It will thus be seen that the period between 1800 and 1865 was one of exploitation and pioneering in vegetable, fruit, and nursery industries in the South. During this probationary period many varieties were tested, and the foundation laid on which to rear the splendid fruit and trucking industries which now characterize this section.

BIBLIOGRAPHY.—Bailey, L. H.: *Cyclopedia of Horticulture* (Volumes I to IV, New York, 1904); McHatton, T. H.: *History of Georgia Horticulture* (*Bulletin* University of Georgia, Vol. IX, April, 1909, No. 9, pages 176-186); Oemler, A.: "Truck Farming" in *Report* of the Bureau of Agriculture for 1885, pp. 583-627, Washington; White, W. N.: *Vegetable Gardening in the South* (Richmond, Va., 1856); Tenth Census of the United States—Vol. *Agriculture;* Eleventh Census of the United States—Vol. *Agriculture and Fisheries.*

ANDREW M. SOULE,
President State College of Agriculture and Mechanic Arts, University of Georgia.

THE ANIMAL INDUSTRY OF THE SOUTH.

Horses.—It is with its horses that the South, generally speaking, has won its highest place in animal production. The cavalry of Marion was little less famous than that of Forrest. Virginia, Missouri, Tennessee, and South Carolina have all been notable in horsemanship, and long before 1865, Kentucky was more than a competitor for Virginia.

The early horses of the Southern colonies, like those of the North, were mainly of light type. In the Catoctin and Middletown valleys in Maryland,

and the Shenandoah Valley in Virginia, the influence of the "Pennsylvania Dutch" was felt, and horses of heavier type prevailed, and still prevail. With these exceptions, a horse which was suitable for use in the saddle was preferred, and the familiar sporting instincts of the Southerner made the Thoroughbred his favorite.

Speed states that the first Thoroughbred to be imported into the United States was the stallion Bulle Rock, brought to Virginia by Patton and Gist about 1730. Wallace states that Moreton's imported Traveller stood in Virginia in 1751-52. In 1760 a jockey club was formed at Charleston, South Carolina, and races were held. Diomed, regarded by Thoroughbred authorities to be one of the three greatest stallions of his breed that ever crossed the Atlantic, came to Virginia in 1799.

From this time on, the newspapers and other periodical publications are full of the accounts of thrilling four-mile races between Thoroughbreds of tremendous bottom and staying power,—races between Fashion and Boston, Lexington and Lecompte, such, many people claim, as cannot be seen to-day. Statesmen and clergymen, jurists and soldiers, lent their homage to the nobility of the horses of Virginia, and one of the most human anecdotes of John Randolph is the story of the enthusiasm he displayed at the race between Eclipse and Sir Henry on Long Island in 1823, and his sportsmanship when his favorite, Sir Henry, was beaten.

According to Wallace the first record of horse-racing in Virginia is to be found in the court records of Henrico county, in 1677, twelve years after racing began in New York. The Jamestown colonists brought horses with them on their first voyage, or soon thereafter, but most of them shared the fate of many settlers of that ill-starred colony. The first

legislation concerning horses was enacted by the Virginia colony in 1657, which prohibited sending them out of Virginia. In 1668 the exportation of both horses and mares was permitted, and in 1669 the importation of horses into the colony was prohibited, probably to stop New England competition.

Maryland took the first official stand against horse-racing in America in 1747, when a statute was enacted to prohibit pacing and running races at New Market, and in Anne Arundel and Talbot counties. Wallace estimates at fifty the number of Thoroughbred stallions which were imported into the colonies during the period immediately before the Revolutionary War, and the number of mares at twenty. He differs from Speed in giving Maryland the honor of making the first attempt to improve the native horses and to encourage racing, by the use of highly-bred stallions from England, rating after this colony, Virginia, New York, and North Carolina, in the order named. In his opinion there is some ground for belief that the first importations of this character may have been made by South Carolina, although the evidence is not strong on this point.

After the close of the Revolution, the animal industry of the South made rapid strides, especially in the northern tier of Southern states. By the use of new and daring methods, the English breeders were rapidly assuming the foremost position as a nation of great improvers of livestock, which they have since maintained. The Americans promptly took advantage of their work.

Although not directly a phase of the industry's development in the South, the importation of the Thoroughbred stallion Messenger into New Jersey in 1788, was of such great importance to the future of the trotting-horse in America, that his coming to the country should not pass unnoticed. Messenger

spent his first season in Philadelphia, and his claim to preëminence in the industry is that his grandson, Abdallah, was the sire of Hambletonian 10, which horse, more than any other, is regarded as the progenitor of the Standardbred horse. To write a careful history of the sons of this horse would be almost to write a history of the blue-grass counties of Kentucky for the last half of the Nineteenth century. No matter what may be one's ideas of the actual value in dollars and cents of Hambletonian as a progenitor of a breed of horses, of the accuracy of his pedigree as it appears in the Trotting Register, or of the business of breeding Standardbred horses, the fact remains that Hambletonian, more than any other horse, was the founder of the breed, and Kentucky played a very important part in its development.

In the development of the strictly native types of light horses which have originated on American soil —the Standardbred, the American Saddlehorse, and the Morgan Kentucky has played a leading part with two. The American Saddlehorse may be regarded as almost exclusively a Kentucky product. Raised to a high degree of excellence in Missouri, Tennessee, Virginia, West Virginia, Texas, and certain Northern states, the blood lines nearly always run back to Kentucky horses.

The Saddlehorse was developed in the Southern states before the advent of railroads to meet the demands for a means of communication, where transportation by wheeled vehicles was difficult. Horses which were easy-gaited and rapid walkers were eagerly sought, and in time were common. With this incentive, the Kentuckians foresaw the advantage of fixing these characteristics, and, by judicious matings, a breed of horses has been developed that is not only peculiarly an American product, but, hav-

ing been developed especially for use under saddle, occupies a unique position in the world's history of this industry. The Thoroughbred stallion Denmark, sired by imported Hedgeford, is now regarded as the foundation sire of the breed. Denmark was foaled in 1839, and was bred by Samuel Davenport of Kentucky.

Cattle.—The importation of improved breeds of cattle from England and the Continent of Europe, began vigorously shortly after the close of the Revolution. The first importation was made into Virginia about 1783 by a Maryland firm of the name of Miller and Gough. These were cattle of the breed now known as Shorthorns. The same firm made a second importation a few years later and about the same time cattle supposed to have been of this breeding were taken into Kentucky.

The value of these cattle, and of the improved stock developed from related stock in England, was immediately recognized and numerous importations were made, with a short interruption on account of the war with England in 1812-15. In 1817 Colonel Lewis Sanders made an importation of Shorthorn cattle into Kentucky, which has become classic in American Shorthorn history. The registration of English Shorthorns in a herdbook did not begin until after this importation was made, and when cattle so registered began to be imported, a prejudice arose against the Sanders cattle. Unlike the early importations into Virginia, close account was kept of the descendants of the Sanders cattle, and they and their progeny entered quite prominently into the Shorthorn herds. The fashion in pedigrees was set against them, however, because they had not been registered in England, and until recent years, a Shorthorn with a cross to "the Seventeens" was a marked beast and sold at a discount. No tangible

Copyright, Detroit Photographic Company

A HERD OF CATTLE ON A TEXAS RANCH.

reason for this prejudice has ever been advanced. The cattle themselves were among the best to be obtained in England at that time.

Kentucky soon assumed a place of great prominence in Shorthorn breeding, which was held until some time after the Civil War. In fact, during the period from 1840 to 1870, the breeders of this state may be said to have taken the lead in the development of Shorthorn cattle in the United States. In 1837 this breed was taken into Tennessee.

Kentucky is further notable in the beef cattle industry of the nation from the fact that Henry Clay made the first importation of Herefords for his estate near Lexington in 1817, although, it must be said, there was no development of this breed in the South until it was taken into Texas in the seventies, when its excellent qualities on the range gave it first place for that purpose.

The admission of Texas as a state was a fact of great economic importance to the animal industry of the South. Throughout the western part of the state, the vast herds of coarse, slowly-maturing, long-horned cattle roamed almost wild. They supplied hides and a large amount of beef to swell the nation's wealth, but it was not until after the Civil War that much improvement was made. Prior to that time these cattle were inferior in quality. Their improvement since then has been remarkable and will be discussed in its proper place.

Sheep.—The London Company provided the Jamestown colonists with sheep in 1609, and by 1648 there are said to have been 3,000 sheep in Virginia, some of which produced good wool. The prohibition of the export of horses, enacted in 1657, applied also to sheep, and in 1662 a like prohibition was applied to wool. At this time the colony offered bounties of five pounds of tobacco for every yard of woolen

clothing made therein, and ten pounds of tobacco for every good hat of fur or wool, and for every dozen pairs of woolen or worsted stockings. Looms were established at the public expense in every county, and weavers were employed to run them. In 1668 county commissioners were empowered to build houses where poor children could be educated in weaving and spinning, the colony thus taking a pioneer's position in technological education in America.

Washington's well-known interest in agriculture and animal husbandry fostered the sheep industry of Virginia during his lifetime. He kept in close touch with the leading agriculturists and stock breeders of England, and encouraged in every way the development of the business in America. His flock of sheep numbered between 700 and 800, and averaged about five pounds of wool. In his opinion sheep were more profitable than cattle or horses.

One of the most important steps in the development of animal industry of the South in the early days of the nation, was the action of the South Carolina Agricultural Society in 1785, when the first prizes were offered for livestock in the history of the United States. These were premiums for the introduction of Merino sheep into the state. The attempt was not very successful, however, and, although cloth manufactured in Rhode Island from South Carolina wool was pronounced in 1807 to be superior to English cloth, the industry languished and has never assumed the importance in the state which conditions of soil and climate warrant.

Far more important was the organization on Nov. 1, 1809, of a society at Georgetown, D. C., for the purpose of encouraging home manufactures and the raising of domestic animals by offering premiums for livestock. The first exhibition of the society

was held at Georgetown on May 16, 1810; prizes were offered for sheep and wool, and the meeting was attended by the President and the Cabinet and other officials of the government. It was probably the first strictly livestock exhibition ever held in the United States. By this time the sheep industry of Virginia had assumed a position of considerable importance. Washington's work as a breeder was continued at Arlington by George Washington Parke Custis, whose flock became known as the Arlington Long-wools. Custis used rams from the famous Dishley flock of Robert Bakewell, the first great English livestock breeder, and from his stock flocks were established throughout Virginia and Maryland. The sheep were peculiarly adapted to local conditions, and might have been the foundation of a noteworthy breed of American long-wooled sheep had not the craze for Merinos, which began immediately after the first decade of the Nineteenth century, swept the work of Washington and Custis into oblivion. After fifty years had passed, few, if any, traces of the Arlington Long-wools could be observed in the sheep of Virginia and Maryland, and to-day not a vestige remains, unless it is in the sheep found in the mountains of West Virginia, Kentucky, and Tennessee.

In Maryland, Kentucky, Missouri, and to a certain extent in Tennessee, the sheep industry developed by the rapid introduction of Merino blood, followed later by the introduction of what are termed the "down" breeds from England. Aside from these states, however, no real improvement of the sheep industry of the South ever took place during the period before the war. Sheep were there in sufficient quantity to supply wool and mutton for home use, and in Florida the foundation was being laid for the "piney woods" flocks of to-day, but little was

done to establish the industry by scientific breeding methods and the introduction of improved blood.

Goats.—In goat raising, the South had quite an important influence during this period. As with other classes of domestic animals, there were none in North America at the time of its discovery, but the descendants of those brought over by the explorers and early settlers multiplied, and in some cases, just as the Western and Southwestern cattle and horses, became quite feral. Throughout the South, considerable numbers of goats have always been found in the hills, and they are to-day quite numerous. These animals are probably derived from some such sources. They are hardy, short-haired, and are raised only for the kids, the flesh of which is very palatable. Although quite a little uniformity of type is to be seen in some parts of the South, this is the work of natural selection and not of human design.

The only exceptions to this are the efforts made early in the Nineteenth century to improve the native goats by the use of the Angora blood, and the noteworthy development of the Angora goat industry in Southwestern Texas.

The first importation of Angora goats was made in 1849 by Dr. James B. Davis of Columbia, South Carolina, who was employed by the Sultan of Turkey on the recommendation of President Polk to experiment on cotton culture in Turkey. The Sultan presented Mr. Davis with nine head,—seven does and two bucks. These goats were at the time called Cashmeres, but they were actually Angoras and grades of that breed. The importation attracted considerable attention, and four of them were sold in 1853 to Colonel Richard Peters of Atlanta, Georgia. The others had been sold: to Hon. Wade Hampton of South Carolina, one head; to Mr. Daven-

port of Virginia, one head; and the third to a New York gentleman. Colonel Peters was more successful in building up the breed in the United States than Mr. Davis. Thompson states that before the Civil War there were a number of fair-sized flocks in the South and Southwest, and he mentions flocks of from 300 to 1,200 in Georgia, Kentucky, Tennessee, Maryland, Missouri, and Texas.

The development of the Angora goat industry of Texas after the Civil War will be discussed in the proper place.

Hogs.—In hog raising, Kentucky again deserves notice from the fact that one of the American breeds, the Hampshire, seems to have been developed largely within her borders. This breed is similar to a strain known in Massachusetts almost a century ago as the Mackay hog, and bears a strong resemblance to the old belted breed of Hampshire, from which English county it has taken its name. Whether the peculiar belt is an inheritance from the old English Hampshire is somewhat uncertain, and it is by no means settled that the Mackay hog and the present Hampshire are identical. Certain it is that from the Kentucky "Thin-Rinds," as the breed was called until 1904, a race of hogs of superior quality has been developed.

Dairying, Poultry, and Bees.—On these subjects the data for the period before 1865 are meager. Some information on the number of milch cows and the extent of butter and cheese production in the South, may be gained from the statistics presented below, but nothing of a statistical nature appears on the extent of the poultry and bee industries until the Census of 1900.

Dairying as an industry has never existed in the South until recent years, and even now is confined almost entirely to the production of market milk.

The manufacture of butter and cheese on an extensive commercial scale is still practically unknown. During the period under discussion each plantation had its little herd of milch cows to supply home needs, but beyond this there was no attempt to expand.

The same is true of the poultry and bee industries. Both are peculiarly suited to the South, and both were doubtless extensively practiced for home consumption, but how extensive they were is not statistically known.

Statistics of Domestic Animals and Dairy Products.—The earliest figures for the number of domestic animals in the South are found in the Federal Census report for 1840. For reasons well-known to statisticians the figures of the early livestock censuses are of only comparative value, but they are all we have available and are useful in showing in a general way the extent and progress of the animal industry. The figures are for animals on farms and ranges only, and in Texas the number of cattle on ranges was at first omitted.

The following tables show certain statistical information compiled from official sources on the extent of the animal industry in the south in 1840, 1850, and 1860:—

LIVESTOCK IN THE SOUTHERN STATES (EXCEPT CATTLE) AND OTHER INFORMATION ACCORDING TO THE UNITED STATES CENSUS.

1840

States.	Horses and Mules. Number.	Sheep. Number.	Hogs. Number.	Wool. Pounds.
Maryland	92,220	257,922	416,943	488,201
Virginia	326,438	1,293,772	1,992,155	2,538,374
North Carolina	166,608	538,279	1,649,716	625,044
South Carolina	129,921	232,081	878,532	299,170
Georgia	157,540	267,107	1,457,755	371,303
Florida	12,043	7,198	92,680	7,285
Kentucky	395,843	1,008,240	2,310,533	1,786,847
Tennessee	341,409	741,593	2,926,607	1,060,332
Alabama	143,147	163,243	1,423,873	220,353
Mississippi	109,227	128,367	1,001,209	175,196
Louisiana	99,888	98,072	323,220	49,283
Texas	...	...	...	...
Arkansas	51,472	42,151	393,058	64,943
Missouri	196,032	348,018	1,272,161	562,265

TYPES OF HIGH-GRADE CATTLE RAISED ON TEXAS FARMS.

1850

States.	Horses.	Asses and Mules.	Sheep.	Hogs.	Value of Live-stock.	Value of Animals Slaughtered.
	Number.	Number.	Number.	Number.	Dollars.	Dollars.
Maryland	75,684	5,644	177,902	352,911	7,997,634	1,954,800
Virginia	272,403	21,483	1,310,004	1,829,843	33,656,659	7,502,986
North Carolina	148,693	25,259	595,249	1,812,813	17,717,647	5,767,866
South Carolina	97,171	37,483	285,551	1,065,503	15,060,015	3,502,637
Georgia	151,331	57,379	560,435	2,168,617	25,728,416	6,339,762
Florida	10,848	5,002	23,311	209,453	2,880,058	514,685
Kentucky	315,682	65,609	1,102,091	2,891,163	29,661,436	6,462,598
Tennessee	270,363	75,303	811,591	3,104,800	29,978,016	6,401,765
Alabama	128,001	59,895	371,880	1,904,540	21,690,112	4,823,485
Mississippi	115,460	54,547	304,929	1,582,734	19,403,662	3,636,582
Louisiana	89,514	44,849	110,333	597,301	11,152,275	1,458,990
Texas	76,760	12,463	100,530	692,022	10,412,927	1,116,137
Arkansas	60,197	11,559	91,256	836,727	6,647,969	1,163,313
Missouri	225,319	41,667	762,511	1,702,625	19,887,580	3,367,106

1860

States.	Horses.	Asses and Mules.	Sheep.	Hogs.	Value of Live stock.	Value of Animals Slaughtered.
	Number.	Number.	Number.	Number.	Dollars.	Dollars.
Maryland	102,640	10,709	156,900	402,869	14,667,853	2,821,510
Virginia	330,308	47,622	1,155,537	1,787,640	47,794,256	11,488,441
North Carolina	180,616	59,882	624,045	2,090,190	31,130,805	10,414,546
South Carolina	81,125	56,456	233,508	965,779	23,934,465	6,072,822
Georgia	174,412	120,069	633,214	2,411,466	38,372,734	10,908,204
Florida	17,986	12,054	31,633	300,406	5,480,789	1,201,441
Kentucky	416,913	136,062	1,006,151	2,564,850	61,868,237	11,640,740
Tennessee	311,473	128,092	803,171	2,452,525	61,257,374	12,345,696
Alabama	138,897	122,676	381,465	1,800,487	43,061,805	10,325,022
Mississippi	119,579	113,083	338,816	1,537,272	40,245,079	7,528,007
Louisiana	103,265	107,175	202,498	693,610	24,751,822	2,083,736
Texas	416,118	76,082	1,104,544	1,566,639	52,892,934	5,218,987
Arkansas	106,573	48,193	209,155	1,174,298	22,040,211	3,895,399
Missouri	442,443	91,566	1,033,450	2,776,793	53,693,973	9,844,449

The figures for 1840 show Kentucky first among the Southern states in horses and mules, with Tennessee and Virginia close behind. Virginia led in sheep and wool production with Kentucky a close second, and Tennessee was first in hogs. In 1850 Kentucky was still the leading horse state, Virginia still in the lead in sheep and wool production, and Tennessee still leading in hogs, with over 3,000,000 head. Virginia, Tennessee, Kentucky, and Georgia led in the total value of livestock in the order named, and were also the four leading states in the value of animals slaughtered, Kentucky slightly surpassing Tennessee. Tennessee led in asses and mules, with Kentucky, Alabama, Georgia, and Mississippi not far behind.

In 1860, Kentucky led in horses, asses, and mules, and value of livestock; Missouri led in pork production, and Virginia led as usual in sheep and wool production. Tennessee led in value of animals slaughtered.

An idea of the importance of the Southern states in hog production during this period is shown by the fact that in 1840 and 1850 Tennessee held first place in this industry among all the states, and that in 1860 Missouri was first. Such a "hog population" as Tennessee had in 1850 would even now rank her as one of the great pork-producing states of the nation. In the Census of 1900, only seven states had over three million head, and nine had over two million head. The ratio of hogs to 1,000 inhabitants in Tennessee in 1850 was 3,096. In 1900 in Iowa this ratio was 4,357.

A large number of the hogs packed in Kentucky were driven through Asheville, North Carolina. This feature of the trade was common in the North at that time, and ceased with the advent of railways.

The following table shows the number of cattle on farms in the Southern states for the years mentioned, and of butter and cheese for 1850 and 1860:

NUMBER OF CATTLE IN SOUTHERN STATES, ACCORDING TO THE UNITED STATES CENSUS.

States.	Milch Cows.	Total Cattle.	Milch Cows.	Total Cattle.	Milch Cows.	Total Cattle.
	1840		1850		1860	
Maryland	75,203	225,714	86,856	219,586	99,463	253,241
Virginia	285,133	1,024,148	317,619	1,076,269	330,627	1,044,185
North Carolina	188,355	617,371	221,799	693,510	228,623	693,810
South Carolina	184,263	572,608	193,244	777,686	163,938	506,776
Georgia	276,557	884,414	334,223	1,097,528	299,688	1,005,882
Florida	47,395	118,081	72,876	261,085	92,704	385,227
Kentucky	210,554	787,094	247,475	752,512	269,215	856,059
Tennessee	223,887	822,851	250,456	750,762	247,105	760,174
Alabama	189,042	668,018	227,791	728,015	234,045	779,183
Mississippi	227,721	623,197	214,231	733,970	207,134	726,877
Louisiana	74,006	381,248	105,576	575,342	130,672	521,535
Texas	.....	.....	217,811	930,114	598,086	3,503,596
Arkansas	40,981	188,786	93,151	292,710	158,873	548,172
Missouri	126,622	433,875	230,169	791,510	345,243	1,168,984

BUTTER AND CHEESE PRODUCED IN THE SOUTHERN STATES, ACCORDING TO THE UNITED STATES CENSUS.

States.	1850		1860	
	Butter. Lbs.	Cheese. Lbs.	Butter. Lbs.	Cheese. Lbs.
Maryland	3,806,160	3,975	5,265,295	8,342
Virginia	11,089,359	436,292	13,464,722	280,852
North Carolina	4,146,290	95,921	4,735,495	51,119
South Carolina	2,981,850	4,970	3,177,934	1,543
Georgia	4,640,559	46,976	5,439,765	15,587
Florida	371,498	18,015	408,855	5,280
Kentucky	9,947,523	213,954	11,716,609	190,400
Tennessee	8,139,585	177,681	10,017,787	135,575
Alabama	4,008,811	31,412	6,028,478	15,923
Mississippi	4,346,234	21,191	5,006,610	4,427
Louisiana	683,069	1,957	1,444,742	6,153
Texas	2,344,900	95,299	5,850,583	275,128
Arkansas	1,854,239	30,088	4,067,556	16,810
Missouri	7,834,359	203,572	12,704,837	259,633

The prominence of Virginia, Georgia, Tennessee, and Kentucky is readily apparent. Texas takes the lead after her cattle began to be counted, but the great number of milch cows in the state reported in 1860 may be questioned. In butter and cheese production, Virginia led, with Kentucky, Tennessee, and Missouri important factors.

In 1867 the Commissioner of Agriculture published for the first time an estimate of the number and value of livestock on farms and ranges, which has been continued with slight interruptions ever since. The estimate for the year 1867 is the nearest available with which to close the discussion of the animal industry of the South during the period up to the year 1865. The estimate covers horses, mules, sheep, cattle, and hogs. Cows are reported separately from "other cattle," and oxen are omitted. There is no report for goats.

The report for the Southern states is presented in the following table:

ESTIMATED VALUES OF LIVESTOCK IN THE SOUTHERN STATES, FOR FEBRUARY, 1867.

From Report of the Commissioner of Agriculture for the Year 1866. Washington, 1867.

States.	Horses.		Mules.		Sheep.	
	Average Value.	Total Value.	Average Value.	Total Value.	Average Value.	Total Value.
Maryland	$88.68	$7,546,927	$94.72	$1,069,732	$4.58	$1,274,733
Virginia	72.82	12,565,008	86.88	2,494,576	2.56	1,793,705
North Carolina	77.81	7,737,550	85.29	2,777,086	1.77	601,335
South Carolina	79.57	3,486,022	99.65	3,225,885	2.08	451,286
Georgia	88.10	6,338,022	104.96	6,619,595	1.87	649,831
Florida	102.55	787,629	121.93	879,915	2.34	14,149
Kentucky	73.62	16,474,583	96.59	5,771,611	2.95	2,755,253
Tennessee	80.41	20,435,399	96.82	6,728,134	4.77	1,249,174
Alabama	76.73	6,337,803	108.75	8,890,876	1.98	548,868
Mississippi	88.79	6,158,700	99.40	7,088,840	1.97	503,346
Louisiana	75.81	2,745,005	52.91	3,064,420	2.92	257,487
Texas	33.72	9,094,825	49.38	3,268,241	2.15	2,026,120
Arkansas	66.49	5,951,787	84.08	3,572,437	2.68	305,515
Missouri	67.21	19,300,747	85.06	5,187,776	2.33	2,345,349

States.	Cows.		Other Cattle.		Hogs.	
	Average Value.	Total Value.	Average Value.	Total Value.	Average Value.	Total Value.
Maryland	$41.62	$3,632,136	$27.07	$3,130,378	$7.00	$2,690,571
Virginia	29.71	7,745,337	17.08	4,824,615	5.27	5,570,424
North Carolina	20.05	4,081,278	9.00	2,639,012	4.40	5,110,492
South Carolina	22.11	3,275,463	11.34	1,890,532	3.96	1,185,940
Georgia	21.64	5,302,514	10.56	3,575,974	4.33	6,921,479
Florida	15.40	1,262,153	8.16	1,421,900	2.90	281,340
Kentucky	39.16	6,156,500	26.36	10,121,799	4.66	8,790,185
Tennessee	27.88	5,116,956	14.42	2,866,466	4.10	5,407,566
Alabama	25.28	4,456,131	10.22	2,388.541	4.28	3,512,420
Mississippi	23.82	3,825,015	12.62	3,041,994	4.05	2,912,815
Louisiana	24.17	1,811,058	12.59	1,915.342	5.37	1,173,779
Texas	11.20	7,318,192	5.59	13,754,042	2.61	3,429,052
Arkansas	22.77	2,279,345	10.57	1,403,811	4.94	2,379,479
Missouri	29.86	8,397,170	19.36	9,616,936	3.78	5,124,279

Comparing this table with the census report for cattle in 1860, it is seen that there was a marked decrease in every state both in all livestock, with the exception of Texas, where there is an increase in the number of cattle, and Maryland, where there was probably an increase in mules and a considerable increase in the number of sheep.

Bibliography.—Allen, L. F.: *American Cattle, etc.* (New York, 1868); Alvord, H. E.: *Statistics of the Dairy* (Bureau of Animal Industry *Bulletin* No. 11, Washington, 1896); American Saddle Horse Breeders' Association, *The Register* of (Rev. ed., Louisville, 1908); Coburn, F. D.: *Swine in America, etc.* (New York, 1909); Miller, T. L.: *History of Hereford Cattle* (Chillicothe, Mo., 1902); Plumb, C. S.: *Types and Breeds of Farm Animals* (Boston, 1906); Rommel, G. M.: "The Preservation of Our Native Types of Horses" (in 24th *Annual Report*, Bureau of Animal Industry, Washington, 1908), *The Hog Industry* (Bureau of Animal Industry *Bulletin* No. 47, Washington, 1904); Sanders, A. H.: *Shorthorn Cattle, etc.* (Chi-

cago, 1900); Speed, J. G.: *The Horse in America, etc.* (New York, 1905); Thompson, G. F.: *Information Concerning the Angora Goat* (Bureau of Animal Industry *Bulletin* No. 27, Washington, 1901); U. S. Department of Agriculture, *Report 1862* (Washington, 1863), *Report 1863* (Washington, 1864), *Report 1866* (Washington, 1867); Bureau of Animal Industry, *Special Report, etc., on the Sheep Industry of the United States* (Washington, 1892); Wallace, J. H.: *The Horse of America, etc.* (New York, 1897).

GEORGE M. ROMMEL,
Bureau of Animal Industry, Washington, D. C.

SOUTHERN FOREST PRODUCTS AND THE DESTRUCTION OF FORESTS.

THE story of timber consumption in the South from the founding of the Jamestown Colony until 1865 is obscure in its details, yet strikingly clear in its main outlines. Reliable records of species, of cut, of utilization are almost entirely wanting for early times. The direct documentary evidence is almost more confusing than helpful. Far more, however, is to be learned from the effects produced upon the constitution of the forest, and from the extent to which the forest area had been reduced, at the close of the period. In addition to this is the rather imperfect knowledge we have of the agricultural methods in use over much of the region and the indirect influence of these methods upon forest use. Enough is known to establish the fact that enormous waste, coupled with ill-conceived and ineffective attempts at conservation, unmistakably characterized the period. Much of the loss was, however, unavoidable, and this was not true economic waste, which is the wilful rejection of material for which there exists a valuable use.

Waste of the Southern forests began as a necessary evil connected with the destructive use of the

soil in the culture of tobacco. Tobacco quickly exhausted the soil and so enforced the over-hasty extension of clearings, while these in turn involved the complete destruction of a very great proportion of the timber. The situation was similar to that in Ohio and neighboring regions at a later time, when vast quantities of timber which would mean wealth to the owners to-day were triumphantly given to the flames in the log-rolling bees. It should, however, be remembered that colonial tobacco culture—one of the most wasteful single-cropping systems ever known—was largely thrust upon the South by the English trade policies, and by the economic desires of the colonists, and was encouraged by the English merchants for their own profit, regardless of its ultimate effects upon either soil or forest. It would, indeed, be difficult to find a clearer proof than is furnished by these facts in colonial times, to show how powerful and far-reaching may be the influence of any policy affecting the use of land. True, the clearing of the forest from agricultural soils as such soils are actually needed is an economic necessity. But this was not the case here, for almost any other agricultural system would have made lighter demands upon the soils, lengthened their life, and curtailed purely destructive clearing. Till the close of the Eighteenth century general agriculture, like tobacco culture, consisted largely of single-cropping and had similar, though less widespread, effects upon the soil and upon clearing.

Such use of the forest is destruction, not consumption. Throughout the period, direct consumption took chiefly the choicer species and the best trees, culling the forest and so steadily lowering its quality.

The first Federal forest law (Feb. 25, 1799) appropriated $200,000 for the purchase of "growing or

RESIN DISTILLERY.
(Former Method of Handling this Product.)

other " timber for the navy and its conservation for future use. Live oak and cedar were specifically reserved, at the President's discretion, by the Act of March 1, 1817. Under this and subsequent enactments (1822, 1827, 1828, and 1831) about 210,000 acres in all were acquired. Heavy fines for cutting timber reserved for the Navy were imposed by the Act of 1831. These restrictive measures were passed in ignorance of the true extent of forest resources. Moreover, they deprived settlers, in some cases, of the use of the only available timber. They were openly disregarded, and, on the whole, were not well-advised. Unsuccessful plantations of live oak were begun in Florida by the government between 1828 and 1831, but were subsequently abandoned.

The greatest demands upon the forests were naturally, to supply the export trade. Naval stores came second only to tobacco in the colonial exports of Maryland and Virginia. By 1700, pitch, tar, and timber had become the chief exports of South Carolina, which was soon thereafter sending to England 60,000 barrels a year. At the same date naval stores were the principal exports of North Carolina, where the tapping of longleaf pine was first begun, early in colonial times. Just before the outbreak of the Revolutionary War annual exports reached nearly 200,000 barrels of turpentine, pitch, and tar, valued at $225,000 of present currency. Distillation to produce spirits of turpentine received a strong stimulus in 1834 from the introduction of the copper still, which replaced clumsy iron retorts. The rectified spirits of turpentine had come into general use as an illuminant by 1842. Its manufacture resulted in overproduction of rosin, the residuary product, and led to the transfer of the still from the place of shipment to the forest. Previous to 1844 not over one-half of the turpentine produced in North Carolina

was distilled at home. From 1844 the distilling industry expanded into South Carolina, Georgia, Florida, and the eastern Gulf states.

For ship timber white oak was mainly cut, though there are no figures bearing directly either upon the actual consumption of this timber or upon the effects on the pine forests of boxing for turpentine. Cypress, which was abundant throughout the swamps of Louisiana, Mississippi, and several other states, was also extensively culled from an early date.

Indirectly, some idea of the extent to which the forest area had actually been reduced by logging and clearing throughout the Southern states by 1865, may be had from a study made of the forest resources of Tennessee a few years thereafter. Originally nearly all of this Southern region was heavily forested. By 1865 the forests of Tennessee had been reduced to less than half the area of the state. At the same time Florida, Arkansas, and West Virginia still had forests over similar proportions of their areas. In North Carolina, South Carolina, and Georgia the forests covered larger, and in the remaining Southern states smaller, percentages of the soil. A large number of the commercial timbers were then in use. White ash (*Fraxinus americana*), though still very abundant, was extensively used for flooring, and by wheelwrights, carriage makers, ship builders, and agricultural implement makers. Beech (*Fagus atropunicea*) was made into plane-stocks, shoe-lasts, and tool handles, and was also widely used for fuel. Red cedar (*Juniperus virginiana*) was in enormous demand. In Tennessee, where it had once been as abundant as oak or poplar, it was nearly exhausted in four counties; more than 700,000 feet was being annually shipped to St. Louis for fencing, and large numbers of tele-

graph poles were going to Nashville by every railroad. Bucket factories in that state were using 5,000,000 feet of cedar a year, and shortly after the period discussed 5,000 cords were shipped to Pittsburg to supply a single order for wood pavements, at a price of $9 a cord. The compiler of these statistics records that a large number of men had been employed in handling this lumber for the preceding fifty years, but that the growing scarcity of the timber was lessening the demand for labor.* Black gum (*Nyssa sylvatica*) was much used for hubs, and red gum (*Liquidambar styraciflua*) in large quantities was manufactured into plank for coarse work. White oak pipe staves were being shipped from the lower Tennessee River at the rate of 1,635,000 a year. The heavy oak staves, which measured sixty inches in length, five inches in breadth, and one and one half inches in thickness, brought from $180 to $225 per thousand. Much white oak was also shipped for boat building, while all parts of wagons except axles were made of this wood, as were also agricultural implements. Staves for tobacco hogsheads and flour barrels were chiefly made of red oak (*Quercus rubra*). This was also the material of most of the log houses in the state and furnished a large part of the charcoal used in the iron furnaces. Post oak (*Q. minor*) was regarded as the best timber for railroad ties. Chestnut oak was plentiful. Many single chestnut oak trees furnished tanbark worth $18 each. A number of other species, such as black and honey locust, hickory, black walnut, and elm, were also widely used.

To summarize: by 1865 the forests of the Southern states, as a whole, appear to have had their area reduced by destruction and use to about half of

---

*The *Resources of Tennessee*, First and Second *Reports* of the Bureau of Agriculture of the State of Tennessee. Article "Forests."

their original extent. Further, great waste had occurred in clearing and in turpentining—for turpentining was exceedingly wasteful under the prevailing system of boxing. Culling had in many regions seriously lowered the average quality of the forests. Again, use had extended to a large number of species. On the other hand, the systematic exploitation of the Southern timbers, especially of the yellow pines for lumber, had yet to begin. It was to be several decades before the South was to become the chief center of the lumber industry and to have within its grasp the great opportunity of maintaining in this region an immense economic asset in forests conservatively managed for permanent production.

BIBLIOGRAPHY.—Beer, G. L.: *The Commercial Policy of England Toward the American Colonies* (Columbia Univ. Studies, III, No. 2, New York, 1893); Bartram, William: *Travels Through North and South Carolina, Georgia, East and West Florida, etc.* (Philadelphia, 1791; London, 1792); Bogart, E. L.: *The Economic History of the United States* (New York, 1907); Bolles, A. S.: *Industrial History of the United States* (Norwich, 1878); Bristed, John: *America and Her Resources* (London, 1818); Coman, K.: *The Industrial History of the United States* (New York, 1905); DeBow, J. D. B. (ed.): *The Industrial Resources, etc., of the Southern and Western States* (4 vols., New Orleans, 1852-1853); Fiske, John: *Old Virginia and Her Neighbors* (Boston, 1897); Kalm, Peter: *Travels into North America* (3 vols., London, 1771); Lord, E. L.: *Industrial Experiments in the British Colonies of North America* (*Johns Hopkins Univ. Studies in Hist. and Pol. Science,* Extra Volume XVII, Baltimore, 1898); Vols. I and II of *A Documentary History of American Industrial Society;* Phillips, Ulrich B. (ed.): *Plantation and Frontier Documents* (Cleveland, 1909; Strachey, William. *The Historie and Travaile into Virginia Britannia* (R. H. Mayor, ed., Hakluyt Society, Vol. 6, London, 1849): *The Resources of Tennessee* (First and Second *Annual Reports* of the Bureau of Agriculture, 1878; *Report* of the Chief of the Forestry Division, U. S. Department of Agriculture, for the year 1889, pp. 334-35; Wright, C. D.: *The Industrial Evolution of the United States* (Meadville, Pa., 1895).

GIFFORD PINCHOT,

Late Forester, United States Department of Agriculture.

GAME AND GAME PROTECTION IN THE SOUTH.

It is difficult at this day to realize the vast amount of game this country originally contained. To the earlier settlers both North and South it furnished almost the sole means of subsistence, as meal and flour were very scarce and were carefully husbanded. As settlement advanced a trade in game and its products soon sprang up, which attained considerable proportions. Buffalo meat by the boatload was shipped from Kentucky to New Orleans. The hides of buffalo and other big game passed down the Mississippi to the same port with the shipments of pelts of beaver and other fur-bearing animals, furnishing a trade the annual value of which to St. Louis for the forty years preceding 1847 was estimated to be between $200,000 and $300,000, and later exceeded the latter amount. Venison was as staple a commodity in the markets of frontier towns as beef or pork. Wild turkeys were brought to market by the wagon load. Prairie chickens abounded in such numbers that when Audubon made his home in Kentucky about 1808 they could frequently be seen in the farmyards mingling with the poultry and even in the village streets, while they could hardly be sold for more than one cent each. The enormous breeding colonies and roosts of passenger pigeons supplied so abundant an article of food that in 1805 Audubon saw schooners at the wharves of New York loaded in bulk with these birds, which were sold for a cent apiece, while a quarter of a century later he saw many piles of them in the New York market and purchased 350 live ones for four cents each.

With the abundance of game and the peculiar conditions existing in most of the Southern States prior

to the war, comprehensive game laws seem to have been considered unnecessary until a comparatively recent period. Hunting, while popular with those who had the time and inclination for it, was indulged in by comparatively few. Cheap guns and ammunition were not available, transportation was more difficult and expensive than at present, and field sports were not indulged in by all classes as they are to-day. But in spite of abundance of game, certain species began to disappear early in the Nineteenth century. Buffalo, which were found not far from the head of navigation on the Potomac in 1612, had disappeared south of the Ohio and east of the Mississippi by 1810. Elk, formerly in Virginia, Kentucky, Tennessee, and other states, seem to have been exterminated in the same region a few years later. The great flights of passenger pigeons recorded from Kentucky became a thing of the past, and the prairie chicken, formerly abundant in the same region, practically disappeared in the South, east of the Mississippi.

Comparatively little restraint seems to have been placed on hunting in colonial days. The laws of Virginia, which were more numerous than those of the other colonies, will illustrate the legislation of the Seventeenth and Eighteenth centuries. The first game laws were enacted soon after the establishment of the colony, but for many years they consisted of little more than regulations concerning the manner of hunting or offering bounties for the destruction of wolves and other noxious species. Laws prohibiting hunting on the lands of another were enacted in 1632, 1639, 1642, 1645, 1657, 1661, 1705, and 1748.

Deer.—The first Virginia law really protecting game placed a close season on deer in 1699. This was amended in 1705, so as to make the close season from Jan. 1 to Sept. 1. It is interesting to note

that this period was only one month shorter than that adopted two centuries later in Virginia, the close season established in 1903 being Jan. 1 to Oct. 1, and changed in 1908 to Dec. 1 to Sept. 1. By a law enacted in 1761 it was made unlawful to leave the carcass of a deer in the woods, and by one in 1772 to kill any deer for four years. Another interesting statute was that passed in 1792 prohibiting the killing of a tame deer with a bell or collar on its neck. This provision, still on the statute books, is probably one of the oldest game laws in force to-day.

Fire Hunting.—A method of hunting deer, and later of hunting water-fowl, which has been the subject of considerable legislation, is that practiced at night with torches. North Carolina prohibited it in 1777 and 1784, Georgia in 1790, Mississippi Territory in 1803, Alabama in 1822, and Florida in 1827. But in spite of legislative restrictions the practice has persisted down to the present time, especially in some of the coast counties of North Carolina.

Sunday Hunting.—Hunting on Sunday was generally prohibited, and in several cases by statutes passed at an early date, as in Mississippi Territory in 1803, in Arkansas in 1855, and in Florida in 1859.

Non-residents.—About the middle of the Nineteenth century "camp hunting" by parties of non-residents seems to have become troublesome in several states, and was prohibited locally. Alabama prohibited the practice in Covington County in 1846, and in Butler, Coffee, and Conecuh counties in 1850; Florida enacted local prohibitions for Escambia and Santa Rosa counties in 1851; and Georgia followed with prohibitions for Berrien, Bryan, Clinch, Richmond, and Worth counties in 1856 and Colquitt County in 1857. In 1854 North Carolina prohibited non-residents from hunting wild-fowl in Currituck County. These laws, followed by more stringent

regulations in Florida in 1855 and Georgia in 1857, may be regarded as the forerunners of the non-resident legislation of later years.

Game Birds.—Protection of game birds did not receive attention until many years after laws protecting deer had been adopted, and at the close of the period comparatively few bird laws had been enacted. Among them the following six are worthy of mention: Virginia, in 1831-32, prohibited wild-fowl shooting at night except from land, and shooting with a gun which could not be discharged from the shoulder at arm's length without a rest. Missouri in 1851 protected quail, grouse, prairie chickens, wild turkeys, and woodcock in St. Louis County. Alabama in 1854 passed two laws protecting partridges, wild turkeys, snipe, summer ducks, and other game birds in Baldwin, Mobile, and Washington counties. In Louisiana, under a law passed in 1857, shooting ducks at night in St. Bernard Parish was prohibited, and in Texas a law was enacted in 1860 protecting quail for two years on Galveston Island, and thereafter between March 1 and September 1. Thus, at the close of the period, not only were the laws protecting deer incomplete and scattered, and those protecting game birds little more than isolated experiments in local legislation, but no attempt was made to establish a warden service or to provide any special means of enforcement.

BIBLIOGRAPHY.—Audubon, J. J.: *Ornithological Biography* (Vol. II, Edinburgh, 1834): Bartram, William: *Travels Through North and South Carolina, Georgia, and East and West Florida* (Philadelphia, 1791); Butler, Mann: *History of the Commonwealth of Kentucky* (Cincinnati, 1836); Collins, Lewis: *Historical Sketches of Kentucky* (Maysville, 1847); Palmer, T. S.: *A Review of Game Legislation in Alabama* (First Biennial *Report*, Dept. Game and Fish of Alabama, p. 67, et seq. 1908); Williams, R. W.: *Game Protection in Florida* (*Circular* No. 59, Biological Survey, U. S. Dept. Agriculture, 1907); Winston, F. D.: *History of Game Protection in North Carolina* (Audubon Society of North Carolina, 1904).

THEODORE S. PALMER,
Assistant in charge of Game Preservation, United States Biological Survey.

FISHERIES IN THE ANTE-BELLUM SOUTH.

Unlike the settlers of New England, the colonists of the South paid little attention to fishing. An explanation of this is probably to be found in John Smith's *Advertisements for Unexperienced Planters* published in 1631, wherein he states: "Now although there be fish in the rivers, yet the rivers are so broad and we so unskillful to catch them, we little troubled them, nor they us." With the increase in population the settlers gave greater attention to this large food resource at their doors, not only for daily needs during the fishing season, but also to be salted for use at other times. The principal species taken were shad, herring, mullet, and drum; less important were Spanish mackerel, sea bass, jurel, pompano, trout or squeteague, and red fish or channel bass.

The rivers were then free from dams and other obstructions to the upward progress of fish, and previous to 1800 shad ascended the James River 370 miles, the Neuse 340 miles, the Pee Dee 451 miles, the Santee 374 miles, the Savannah 384 miles, and the Altamaha 370 miles, which represent an average of 60 per cent. more than the limit at the present time. With primitive dip or bow nets, and later by means of seines, gill nets, etc., shad were taken all along the river courses, and large quantities were salted for consumption during the winter as well as for shipment into the interior.

In the account of his American travels * in 1759 and 1760, Burnaby wrote of the Potomac River: "These waters are stored with incredible quantities of fish, such as sheepshead rockfish, drums, white pearch, herrings, oysters, crabs, and several other

*London, 1775, p. 9.

sorts. Sturgeon and shad are in such prodigious numbers that one day, within the space of two miles only, some gentlemen in canoes caught above 600 of the former with hooks which they let down to the bottom and drew up at a venture when they perceived them to rub against a fish; and of the latter above 5,000 have been caught at a single haul of the seine."

In his *History of Virginia*, published at Charlottesville, Virginia, in 1835, Joseph Martin stated (on page 480) that in the Potomac River "quantities of shad and herrings are taken which appear almost incredible. The number of shad frequently obtained at a haul is 4,000 and upwards, and of herrings from 100,000 to 300,000. In the spring of 1832 there were taken in one seine at one draught a few more than 950,000 accurately counted. The prosecution of the numerous fisheries gives employment to a large number of laborers, and affords an opportunity to the poor to lay in, at very reduced prices, food enough to last their families during the whole year. The shad and herrings of the Potomac are transported by land to all parts of the country to which there is a convenient access from the river, and they are also shipped to various ports in the United States and West Indies. The lowest prices at which these fish sell when just taken are twenty-five cents per thousand for herrings and $1.50 per hundred for shad; but they generally bring higher prices, often $1.50 per thousand for the former and from $3.00 to $4.00 per hundred for the latter. In the height of the season a single shad weighing from six to eight pounds is sold in the market of the District for six cents. Herrings, however, are sometimes taken so plentifully that they are given away or hauled on the land as manure for want of purchasers." Martin estimated that 7,850 persons were

employed in these fisheries, and that in a good season the catch aggregated 22,500,000 shad and 750,000,000 herrings, and that 995,000 barrels were required to contain the salted fish. It seems exceedingly probable that these figures are exaggerated, yet undoubtedly the catch was very large. Owing to lack of ice for preserving the catch, and the absence of suitable shipping facilities, the fresh fish trade was of small extent, and those fish not consumed fresh were salted.

Along the coast the capture of mullet was the principal fishery, the season extending from August to November, and the bulk of the catch was salted in barrels. Just prior to the war, the salt mullet trade of Wilmington reached 6,000 barrels annually, worth about three cents per pound.

An important factor in the Southern fisheries was the many northern fishermen employed in them. As early as 1834 a number of men from Connecticut resorted to the grounds near Savannah with gill nets, and took shad for shipment in sail vessels to the North. This fishery increased rapidly with the establishment of the first line of steamers between Savannah and New York. Also smack fishermen from New York and Connecticut would go to North Carolina, South Carolina, and Florida in the early fall and remain until the following May.

This fishery was especially extensive at Charleston, where often fifteen smacks were employed, and not uncommonly 100,000 live fish were in the cars of the dealers at one time. The catch consisted principally of sea bass *(Serranus atrarius)* with small quantities of porgies, jacks or jurel, red snappers, grunts, sailor's choice, etc. The principal grounds were ten to eighteen miles from the shore, extending from Bulls Bay to St. Helen Sound. At that time Charleston had the largest fish trade in the

South, supplying the country for a distance of 100 miles, including Savannah. After the return of the smacks northward, in the spring, the catch was made principally by small boats, and few fish were shipped.

Bluefish was unknown previous to 1842, but a considerable fishery developed on the coasts of Virginia and North Carolina about 1850. Seines were first used with excellent results, and later, gill nets were introduced in the capture.

On the coast of Florida, and especially at St. Andrews Bay, quantities of fish were taken by means of seines for salting and sale to the planters living in the interior. In the ten years preceding 1860, a total of 21,000 barrels of fish were salted and sold at St. Andrews Bay, for which the fishermen received $8 to $10 per barrel. The principal species were Spanish mackerel, jurel, pampano, trout, red fish, sheepshead, bluefish and mullet.

Many of the Carolina planters resorted to favorite places on the coast each spring to enjoy the sport of drum fishing, and often they brought their negroes along to catch a supply to be salted for plantation use. A good account of this fishery is to be found in William Elliott's *Carolina Sports*, published in 1859, but written mostly about twenty years before.

Nor should we fail to mention the porpoise fishery prosecuted on the North Carolina Banks each winter from 1810 to 1860. From one to three seine crews, of fifteen to eighteen men each, followed this fishery quite regularly, the seines measuring 800 yards in length, in sections of 200 yards each, shot from four boats. Four or five hundred porpoise in a season was a fair catch for each crew. The skins were sold for tanning and the oil expressed from the blubber was used for lubrication, etc.

While probably there is little truth in the oft re-

peated story that slaves were fed on terrapin until they protested, this delicacy was quite abundant all along the coast from Delaware to Texas; many persons engaged regularly in their capture, and thousands of dozens were shipped annually to the northern market, the fishermen receiving about $6 per dozen for them. The fishery was at its height about 1860, both as to number of men employed and the amount of capital invested.

Bibliography.—Martin, Joseph: *History of Virginia* (Charlottesville, Va., 1835); Elliott, William: *Carolina Sports* (New York, 1859); Goode, George Brown: *The Fisheries and Fishing Industries of the United States* (Washington, 1880-87); Baird, Spencer F.: *The Sea Fisheries of Eastern North America* (Washington, 1889); Stevenson, Charles H.: *The Shad Fisheries of the Atlantic Coast of the United States* (Washington, 1899).

Charles H. Stevenson,
Bureau of Fisheries, Washington, D. C.

PEARL FISHERIES IN THE SOUTH.

The hope of finding rich pearl resources equal to those of Venezuela, Panama and Mexico, was one of the principal inducements for sixteenth century exploration in the present limits of the Southern states. Many early writers reported the gems obtained in very great abundance by the Indians from fresh water mollusks, and that is confirmed to some extent by their occurrence in burial mounds; yet we have no evidence that during the Sixteenth and Seventeenth centuries any pearls of value were received in Europe from within the limits of these states. Coxe's well-known description in 1722 of the resources of America refers to two great pearl fisheries, one in the present limits of Arkansas and the other in Georgia near the site of Athens. Aside from

this notice, little was heard of the occurrence of pearls until half a century ago. This does not indicate necessarily that the gems were absent from the waters, but the residents had little occasion to open the Unions, and even when pearls were found in mollusks opened for fish-bait, etc., the finders were in few instances acquainted with their market value, and did not attempt to sell them, although some attractive ones were treasured as ornaments or as souvenirs.

Bibliography.—Hakluyt Society: *Discovery of Florida* (London, 1851); Shipp, Bernard: *The History of Hernando de Soto and Florida from 1512 to 1568* (Philadelphia, 1881); Coxe, Daniel: *A Description of the English Province of Carolina* (London, 1722); Kunz, George F. and Stevenson, Charles H.: *The Book of the Pearl* (New York, 1908).

Charles H. Stevenson,

Bureau of Fisheries, Washington, D. C.

OYSTER PRODUCTS IN THE SOUTH.

Oysters grow naturally and in abundance in all of the bays, sounds, and river mouths along the south Atlantic and Gulf coasts and, from the earliest times of which we have record, they have constituted a valued item of food to those who live on or near the coast.

Mention of oysters is made by writers on economic subjects in colonial times and during the early part of the Nineteenth century, but the impression conveyed is that oysters constituted one of the natural luxuries to be had almost for the asking.

The supply of oysters on the natural beds was everywhere so much greater than the local demand, and so easily attainable, that the price of oysters re-

Copyright, Detroit Publishing Company.

OYSTER LUGGERS, NEW ORLEANS, LOUISIANA.

mained too low to induce shoremen to take up oystering as an occupation or to attempt to increase the demand.

The value of oysters as an article for general commerce seems to have been recognized first in the North. Then, when the supply on Northern beds began to fail, two oyster shippers came from Connecticut about the year 1836 and established packing houses in Baltimore, bringing with them Northern methods of preserving, packing, and shipping oyster products.

Prior to the War between the States and for many years after its close, the vast supply of oysters from the Chesapeake was sufficient to more than satisfy the demands of the trade and the development of the oyster industry was hence confined to Maryland and Virginia. At first the entire product from Virginia as well as that of Maryland was packed in the numerous "raw" and "steam" houses of Baltimore, but in 1859 a packing house was established in Norfolk, and by 1865 an extensive trade had been established there.

In addition to the large and growing demand for the product of the packing houses, the industry in the Chesapeake was stimulated by the demand of Northern planters for seed oysters; 2,500,000 bushels of seed having been carried North in 1865 from Maryland waters alone.

The rapid and enormous growth of the oyster industry in the Chesapeake during this period is shown by the following figures: the output from Maryland having increased from 710,000 bushels in 1839 to 1,350,000 bushels in 1850 and to 5,735,000 bushels in 1865: the output from Virginia in 1865 was 2,065,000 bushels. The output from the states south of Virginia consisted of quantities of oysters such as could be disposed of by peddlers to those

who resided in the towns and along the roads near the coast.

The methods by which oysters are gathered from the bottoms were very early developed, tongs having been used as early as 1650 and dredges since about the year 1800.

BIBLIOGRAPHY.—Information regarding the oyster industry in the South prior to the war between the states is not only meagre but unreliable as well. J. D. B. DeBow in his "Compendium of the United States Census of 1850" mentions oysters only in connection with the products of a single state, 177,930 bushels being reported that year from Virginia, but we know from other sources that the industry at this time was much better developed in Maryland than in Virginia. The articles which treat the subject in greatest detail and which indicate the sources from which these authors secured their information are: Ingersoll, E.: *The History and Present Condition of the Fishery Industries: The Oyster Industry* (published by the Department of the Interior, Washington, 1881); Stevenson, C. H.: *The Oyster Industry of Maryland* (U. S. Fish Commission, Pamphlet No. 227, Washington, 1892).

CASWELL GRAVE,

Associate Professor of Zoölogy, Johns Hopkins University.

MINES AND MINING.

PRODUCTS OF MINES, AND MINING.

THE exploitation of mineral resources affecting the economic life of the South prior to 1865, did not include many of the substances now yielding a large portion of the annual production. Many of the mechanical industries were either in the prospective stage or just actively developing when the war broke out, while still others had had times of activity, but were then in periods of quiescence. Two principal factors were the cause of this condition. The population was predominantly agricultural, with relatively little aptitude for or interest in mechanical industries. Literature, law, and theology were the centres of intellectual attraction, while comparatively few were interested in natural history or the natural sciences. Many believed them subversive of religion. With the exception of Ruffin, Tyson, and later, Broadhead and LeConte, all of the more prominent early workers in the scientific study of the mineral wealth of the South came from beyond her borders. Denison Olmstead, Emmons, and Mitchell moved south from New England; Vanuxem, Conrad, and the Rogers brothers from Philadelphia; Safford from Ohio; and Troost, D. D. Owen, and Tuomey from Europe. The second important factor in retarding the mineral industries of the South was the lack of transportation facilities from the mineral bearing regions to the centres of trade.

Returning to the substances now more or less extensively worked, it may be noted that prior to 1865

there was no commercial production of petroleum, natural gas, and asphalt among the hydrocarbons; phosphate; feldspar; quartz and mica; cement; graphite; fuller's earth; mineral paints; barite, sulphur, and bauxite; or the rarer substances such as monazite, tungsten, and precious stones. Many of these were unknown, others were known to exist, but were not utilized on account of lack of demand, while others, like stone, were only quarried for local demand. Industries were just starting in lime-burning, and in the manufacture of abrasives, such as whetstones, oilstones, and grindstones. Many attempts had been made, in what now appears to be a small way, to exploit the lean deposits of copper, silver, and manganese.

With the exclusion of these substances, which today are mined successfully in one or more of the Southern states there remain the few materials to be considered which were the basis of practically all the mineral industry of the South prior to the marked development subsequent to the devastating effects of the war. These include gold, iron, copper, lead, and zinc among the metals; coal, slate, salt, mineral waters, and the widespread but locally utilized clays, building stone, sands, and gravels. The history and economic influence of the industries based upon these materials will be successively discussed.

Gold.—The gold mining industry is the only one which, for a time at least, placed the Southern Atlantic states in prominence as mining areas. That gold should have aroused an interest rather than the more abundant deposits of iron or coal lay in the facts that for it good transportation facilities were less necessary; that there was a large and relatively steady market; and that the searching for and winning of gold appealed more strongly to the imagina-

tion and speculative instinct than the more prosaic pursuits of iron and coal-mining.

The presence of gold in the region was known to the early Spanish explorers, but it was not until the close of the Eighteenth and the early decades of the Nineteenth century that any appreciable quantity was won. The earliest modern discoveries were nuggets from the Rappahannock, in Virginia, noted by Jefferson in 1782; from Greenville, N. C., by Dayton, in 1802; from Cabarrus county, N. C., in 1799; Montgomery county, N. C., in 1805; from Habersham county in Georgia, in 1829. Prior to 1825 the workings were in placer deposits and many nuggets were found, one from Cabarrus county weighing 28 pounds, and others from four to sixteen pounds. The Reed mine was estimated to have yielded more than 100 pounds in pieces each larger than a pound before 1830.

From 1804 to 1827 North Carolina furnished all the gold in the United States, amounting, it is estimated, to $110,000; this state furnishing the first native gold coined at the mint. By 1838 the production had become so great that branch mints were established at Charlotte, N. C., and Dahlonega, Ga.

The first great wave of "gold fever" swept over the country in 1830, as the result of the discovery of rich finds in Georgia. Within a short time 6,000 to 7,000 miners were busy prospecting for gold. The territory involved was within the disputed zone of West Georgia and the conditions quickly became so lawless that the governor was forced to call out the soldiers for maintaining order, and to forbid the prospecting and mining of gold. The proclamation was not effectively enforced and the excitement soon died down, although gold washing continued irregularly for several years. The maximum production, judging from the amounts deposited at the mint, was

reached in 1833, when nearly $500,000 was credited to Georgia. The total production to 1848 amounted to $13,243,475, according to Whitney.

A second period of excitement occurred in 1852. This was due in part to the finding of gold in California in 1849, which caused a searching of the Atlantic states from end to end in 1852-53. Many large abandoned mines and prospects were reopened, and the investment of English capital in the gold regions of the Southern states produced scenes of intense excitement and caused the floating of many "wild-cat" companies.

During the two decades and a half between 1830 and 1855, most of the gold reported by the mint from the Southern states came from North Carolina and Georgia, the former state producing a little more during the entire period than the latter.

The discovery of gold in the South doubtless had a profound effect on the economic outlook of the South by turning the attention of the inhabitants from agricultural pursuits to mining, and by stimulating immigration into the less populated portions of the region; but this was far less than might be expected, because of the primitive methods of mining then employed. Few large companies with extensive plants were developed and little was done tending towards the development of mining centres, because of the scattered character of ore deposits and the fact that much of the gold was won by individual miners working with pan and cradle upon the placer deposits. Few strong veins of rich ore were encountered to justify the erection of large milling plants. The ore obtained was, moreover, free milling and no attempts were made to utilize the modern methods of reduction by chemical processes.

Maryland.—The first gold reported from Maryland was discovered in 1849, near Sandy Springs, in

Montgomery county, when a specimen was exhibited to the American Philosophical Society. It was not, however, until 1867 that any attempt was made to open a mine. This was situated in the same county, but at some distance from the place of the original find, which apparently had no influence at the time of its discovery.

Virginia.—The earliest record concerning gold in Virginia is that of Thomas Jefferson, who refers in 1782 to the finding of a lump of gold ore near the Rappahannock which weighed four pounds and yielded 17 pennyweight of metal. The next record is the deposit of $2,500 of gold at the mint in 1829. According to Watson, gold was discovered in Spottsylvania county in 1806, and a mine was opened in Orange county in 1831. Silliman, writing in 1836, refers to mines in Goochland, Louisa, and Culpeper counties, yielding ore reaching in one instance as high as $133.73 per bushel (100 pounds).

Whitney, writing in 1853, describes many mines at widely separated points along the Piedmont, some of which were well equipped with machinery, the companies being financed in most instances by English capital.

All of the activity in these questionably successful undertakings was stopped with the breaking out of the war. The legendary accounts of the production from these mines would indicate a gross output of several millions, but the amount of gold actually deposited at the mint prior to 1860 is somewhat less than $2,000,000.

North Carolina.—This state is credited with having furnished all the gold produced in the United States from 1804 to 1827, amounting to $110,000. All of the gold to the latter date was found in placer deposits in native nuggets, some of which were of unusual size, the largest reported being found dur-

ing 1805 in Cabarrus county, and weighing 28 pounds. The first recorded discovery is that of the Reed Mine, ten miles southeast of Concord, in Cabarrus county. In 1826 the parent gold-bearing veins were discovered and there was a period of general prospecting and increased production, resulting in the establishment of a branch mint at Charlotte in 1838. The highest deposit (1833) only reached $475,000, scarcely a fortieth part of the present annual production of either Colorado, Alaska, or California.

The discovery of gold in California stimulated renewed activity in North Carolina. New companies were organized with great capitalization, "wild-cat" schemes were promoted, and all of the evils of a gold fever affected the region. The deposits at the mint exceeded those of 1833 for a single year (1849), and then gradually sank in value until the opening of the war, when all mining operations were suspended. The total production of gold in North Carolina prior to 1865 was worth less than $10,000,000.

South Carolina.—Gold was found in this state in 1829 and within a year active and successful mining was conducted in Chesterfield, Lancaster, and Kenshaw counties. Several mines were worked extensively for the time, among which the Haile mine may be noted as one which was worked continuously from 1828 to 1848. By 1852 all of the mines had been practically abandoned on account of the rush of miners to California. That year a new strike in the Dorn mine renewed the excitement, the output from this mine sometimes reaching as high as $2,000 per bushel. The fever soon subsided, and little work was under way when the war broke out in 1860.

Georgia.—The first gold found by Europeans probably came from Georgia, as there are evidences of mining work by the Spaniards as early as 1529 and

again in 1560. It was not, however, until after the presence of gold in the Carolinas and Virginia was well established that the yellow metal was worked extensively in Georgia. The discoveries made in 1829 and 1830 along Duke Creek, in Habersham county, and in Hall and Carroll counties caused a real "gold fever." This resulted in an annual output varying from $212,000 in 1830 to $415,000 in 1834. Subsequently the annual production varied greatly, gradually decreasing until the revival in 1853-54, after which its value rapidly dwindled to $32,906 in 1857. All operations stopped soon after the outbreak of the war, and were not resumed until many years later.

Alabama and Tennessee.—In the northern and eastern parts of these states are small areas of the gold-bearing formations of the Appalachians. Gold was found in both states about 1830, and there has been a small annual production from each from that time to the present. Neither state, however, has ever produced more than a few thousand dollars' worth of this precious metal in any one year.

Copper.—The production of copper in the Southern states prior to the war was never large, Tennessee alone producing any effect on the price of marketed product. The presence of copper was early known in Maryland and North Carolina, the former supplying the copper sheeting for the dome of the capitol in Washington. Prior to 1844, when the Lake Superior copper was discovered, a small production placed any state in prominence as a copper producer, since the total annual production for the United States and Canada probably did not exceed 100 tons of metal. The discovery of the rich deposits in Michigan aroused renewed interest in Virginia, North Carolina, Alabama, and Tennessee. The success in the latter state subse-

quent to the discovery of 1850 caused a revival of interest, but no further deposits of moment were disclosed. The years 1854-60 marked the greatest activity in prospecting for copper.

Maryland.—Practically all the cupriferous deposits now known had been worked prior to 1865. None of these proved very rich. Ducatel, in 1839, refers to the Liberty mine as having been extensively worked and then abandoned. Probably this was first worked in the Eighteenth century, but operations stopped with the Revolution, and were not renewed until 1835. Subsequently this mine was reopened, and has been worked intermittently to the present time. Reference was also made to the working of the Dolly Hide mine nearby. This property was reported to have produced thirty-three tons of metallic copper between 1842 and 1853. The mines about Sykesville had yielded about 7,500 pounds of metallic copper prior to 1853. The total production of the state probably did not exceed 75,000 pounds prior to 1865.

Virginia.—The Virgilina district contiguous to North Carolina was prospected and ore developed as early as 1856. The copper deposits south and west of Front Royal, prospected first in colonial times, were worked in shallow pits during the decade before the war, and a shipment of thirty-five tons of ore, yielding about 7,000 pounds of metal, was made in 1861, according to Watson. Rogers mentions extensive prospecting before 1840 in Amherst county "without the success that would justify a prosecution of the enterprise."

The region of most importance was that in Floyd, Carroll, and Grayson counties. This "was actively prospected in the early fifties, eight mines producing ore in 1854-55." During the first six months of 1855 over a million and a half ounces of ore, yielding pos-

sibly 375,000 pounds of metallic copper were shipped to Baltimore.

North Carolina.—The copper occurring chiefly as an accessory with the gold had long been known to exist in this state where gold mining was actively prosecuted. Since the ores run relatively higher in copper with increasing depth, it is probable that no copper was obtained until some years after the working of gold *in situ* in 1825. Even as late as 1852-53 when the opening of copper deposits of Tennessee aroused renewed interest in the copper deposits of North Carolina it was deemed * hazardous to pronounce positively that they (the copper-gold mines) would prove remunerative.

The only other Southern states producing copper to-day are *Georgia, Alabama,* and *Tennessee.* Only in the latter had the copper industry passed beyond the random prospecting stage prior to 1865, though low grade deposits of the metal were known to exist prior to that time in both Georgia and Alabama. The cupriferous deposits of Tennessee occasioned considerable excitement from the opening of the Hiwassee and Tennessee Company mines in 1852. Prior to this time, from 1843 to 1847, prospecting for gold had shown the presence of copper in the state, and in May, 1850, copper ore was found in place at Ducktown. In 1853 the Hiwassee Company sold ore yielding something less than 100 tons of metal. Operations were, however, on a small scale on account of difficulties in getting the ore to market. By 1858 the best mines in the region had been consolidated and two years later (1860) refining works were established.

Iron.—The iron industry of the South prior to the war is roughly divisible into three periods, exploratory, colonial, and post-Revolutionary.

*Whitney, p. 320.

The first discovery of iron in North Carolina in 1585 was not developed. The shipment of a load of ore to England in 1608, yielding there sixteen tons of pig iron, doubtless stimulated the establishment of the ill-fated Falling Creek furnace in 1621, which was destroyed in 1622 by the Indians before it smelted any ore. These and later insignificant efforts to arouse interest came to naught. The first successful enterprises belong to a period subsequent to 1725. Furnaces were established on the Rappahannock in 1714 and at Northeast, Maryland, in 1716. The Germanna or Rappahannock furnace, established by Governor Spotswood in 1714, was not only the first iron furnace in the South, but the earliest furnace in America outside of Massachusetts and New Jersey. Systematic iron work began at Northeast in 1722 and led to the formation of the Principio Company in which the Washingtons were interested. From 1725 to 1775 this company outranked all others in the South in the manufacture of pig and bar iron, yet their operations only included the Accoceek furnace in Virginia and three furnaces and a forge in Maryland. For a time, stimulated by the fears of the English iron workers, the home government hindered the development of iron-working in the colonies. By 1760, however, the industry was described as flourishing. Maryland, with eighteen furnaces and ten forges, reported an annual output of 2,500 tons of pig. Virginia, with fewer furnaces, produced on an average less than 2,000 tons a year, the well-known Accoceek furnace having suspended operations about 1753. The first plant established west of the Blue Ridge was erected in Virginia in 1760. All of these furnaces, as well as many of the later period, were charcoal furnaces, working on the known ores of the Coastal Plain and adjacent Piedmont.

Copyright by Detroit Publishing Company

CASTING PIG IRON, BIRMINGHAM, ALABAMA.

During the harassing years of the Revolution the furnaces exposed to attack were abandoned or dismantled, while others, like the Catoctin furnace in Maryland, were worked energetically to supply cannon for the Continental army. The rapid westward dispersion of the population and the industrial activity subsequent to the Revolution affected a marked revival of the iron industry with consequent erection of new furnaces in new localities using newly-discovered ores.

Many of the old furnaces of the Shenandoah Valley, now often evidenced only by ruins, the survival of local names, or by recently restored furnaces, belong to the decades between the Revolution and the beginning of the Nineteenth century. The lack of suitable transportation facilities from the richer deposits of the mountains, the lack of larger demands from the more populous eastern regions, and the relatively primitive metallurgical processes, all tended to retard the development of a general industry.

Small furnaces were erected in Alabama (1818), Tennessee (1790-1800), and Missouri (1816) to meet local demands. The second quarter of the century was signalized by another revival. Furnaces were erected in Appalachian Virginia, Alabama, Tennessee, and Missouri.

Railroad construction, beginning at the close of the third decade, exerted increasingly greater influence on iron production. This is especially noticeable between 1845 and 1855 and during the years of expansion subsequent to 1870. The old furnaces in Maryland and Virginia continued active and a few new ones were erected in southern and western Virginia. The chief production in the state just before the war came from the Shenandoah Valley, where from four to eight furnaces were in operation.

In Alabama the period is marked by the erection

of the Shelby (1848) and Round Mountain (1853) furnaces; in Texas by the erection of its first furnace; and in Missouri by the development of the deposits at Pilot Knob and Iron Mountain. The iron industries of Kentucky and Tennessee were also stimulated by the increased demands for iron until by the census year of 1850 the latter state was exceeded in iron production by only three states in the Union.

From 1855 to 1865 the industry as a whole declined rather rapidly, due to the cessation of general railroad construction in the immediate area, and the more active competition of richer fields elsewhere. During the active portions of the war two counteracting influences prevailed. Furnaces in secure locations were pushed to supply iron for ordnance for the army, while those exposed to attack were dismantled because of lack of business or from patriotic reasons.

The larger developments of the Birmingham district belong to a later period and different metallurgical processes.

Lead and Zinc.—Commercial deposits of both lead and zinc occur in the South in great abundance, but with limited distribution; the former occurring in several states, the latter only in Missouri. The history of lead-mining dates back to the early exploration of the Appalachians and the Mississippi Valley, that of zinc to 1867. At the present time Virginia and Missouri supply all the lead, and Missouri alone all the zinc mined throughout the South.

According to Ingalls,* "the history of lead mining in the United States is capable of division into epochs, marked by discoveries, or industrial developments." For the century from 1720 to 1820 the total production was small, equalling scarcely one-seventh

**Lead and Zinc in the United States*, New York, 1908.

IRON MINE NEAR BIRMINGHAM, ALABAMA.

of the present day annual output, or less than 50,000 tons. It was derived almost wholly from southeastern Missouri, a part of the Louisiana Purchase of 1803. Between 1820 and 1850 the Wisconsin deposits furnished the bulk of the production. The Joplin district, in Missouri, discovered about 1850, was hampered by lack of transportation facilities, and later by the fortunes of war, and did not come into prominence until after 1870. The Virginia, North Carolina, and Tennessee production has never been of any considerable importance.

Virginia.—The discovery of deposits of lead in Wythe county by Colonel Chiswell marks the beginning of lead-mining in Virginia, which was continued until the beginning of the Revolutionary War, when the owner was arrested for his Tory sympathies. The mines may have been worked during this war but the records are lacking. Sometime about 1784 these mines were bought by Moses Austin, by whom they were worked for several years before his removal to Missouri in 1797. In 1836 Rogers describes the working of the mines and the hauling of the product by wagons to Baltimore. During the period from 1838 to 1864 the deposits of the region were worked by different companies, which produceed 11,293 tons of pig lead. This was the principal source of lead for the Confederate government until the works were destroyed by Federal troops in December, 1864.

North Carolina.—Lead was discovered at the Washington or Silver Hill mine, in Davidson county, in 1836, and mined more or less uninterruptedly until 1852. Three years later (1855) work was resumed on a larger scale, but the ores were difficult to smelt and the output was never very large.

Tennessee.—Lead was also mined in a small way at Lead Mine Bend in eastern Tennessee for a time

during the war. Attempts have also been made to mine lead at other points within the state, but usually with little or no success.

Arkansas.—Deposits of lead were discovered in Arkansas about 1850, and a furnace for the smelting of the ore was erected at West Sugar Loaf Creek in 1851, but proved unsuccessful.

Missouri.—The most important and most interesting developments in the production of lead throughout the South are those of Missouri. Most of the work prior to the war occurred in southeastern Missouri, where lead deposits were discovered by the French explorers in 1700 through the primitive workings of the Indians. The first period of exploitation was that of the ill-fated Mississippi Company, which made its first attempts to mine and smelt ore in 1719. The following year Renault arrived with 200 artisans and miners and 500 slaves and began working the La Motte mine. He succeeded in establishing a flourishing industry, which lasted until his return to France in 1742. From the time of his departure until the acquisition of the territory by the United States in 1803, the work was prosecuted irregularly; retarded by the attacks of the Indians in 1769, and stimulated by the discovery of rich mines in 1763, 1795, 1797, and 1799. The arrival of Moses Austin, of Virginia, with greater knowledge and improved methods brought about marked changes. He inaugurated the manufacture of shot and sheet lead and the mining of the ore by shafting. Prior to his time the little open pits had been worked by the farmers and slaves between harvest time and December, the ore being smelted in little stone kilns which recovered only 60 per cent. of the metal. The total number of men employed seldom exceeded fifty.

During the first decade of the Nineteenth century the influx of Americans, the discovery of new depos-

its, and the improved methods of smelting increased the output considerably. Schoolcraft, in 1819, mentioned forty-five mines worthy of note, twenty-seven of which were in operation, giving employment to 1,130 men. By 1825 the employees had increased, according to Thomas, to 2,000 men, half of whose time was devoted to farming. Five years later the rise of lead mining in Wisconsin overshadowed that of Missouri which continued to increase quite steadily in its annual output, but did not gain its former position of prominence until the development of the Joplin district of southwestern Missouri about 1871. The average annual production of lead in Missouri increased from 1,900 tons in the twenties to 3,600 tons in the thirties and forties, when a decrease in the output from the older mines led Whitney to believe, in 1853, that most of them were exhausted and that there was little reason to believe that they would ever gain their former importance. The subsequent utilization of the then unused disseminated ores has, however, counterbalanced the somber prospect of the early fifties.

The development of the Joplin or southwestern district began with the erection of furnaces at Cedar Creek in 1852, at Hickory Creek in 1855, and at Granby and near Joplin in 1856. During all of the antebellum period the lead regions were hampered in their development by poor transportation facilities. Prior to 1858, when the Iron Mountain railway reached Iron Mountain, the lead from the southeastern district had to be hauled to shipping points on the Mississippi or on the slowly advancing railroad. The conditions in the southwestern district were even worse. There some of the lead was hauled as far as Boonville on the Missouri, Lime Creek on the Osage, and Fort Smith on the Arkansas. The average transportation charge from the furnaces to St. Louis

are given by Swallow as a cent and a quarter per pound. The development of the southwestern district was further delayed by the fact that it lay in contested territory during the war, the Granby mines and furnaces being worked alternately by Federal and Confederate interests.

Coal—*Maryland.*—Coal was known to exist in the Georges Creek basin as early as 1784, but the region was remote from the seaboard towns, and the surrounding country sparsely settled. By 1820 mining had increased to 3,000 tons a year, the coal being shipped by boat down the Potomac River to tidewater. It was not, however, until after the Baltimore and Ohio Railroad, in 1842, and the Chesapeake and Ohio Canal, in 1850, reached Cumberland that the industry began to grow. Railroads were extended to the mines in 1844, 1853, and 1864. No reliable statistics of production exist for the years prior to 1842, but it seems safe to say that the area had yielded 75,000 tons prior to that date. From that time until 1860 the growth in annual production was constant, except in the panic year of 1857, when the tonnage was less than for the year 1853. With the outbreak of the war there was a sudden drop in production, the tonnage in 1861 being less than for any year since 1850. Before 1865, however, the production had not only returned to normal conditions, but in 1865 had exceeded the annual output of any previous period by nearly 200,000 tons.

Companies were chartered to mine coal as early as 1828. By 1869 twenty-one companies controlled almost all the acreage, at which time an abortive attempt was made to consolidate them all under a single management. The present dominating company of the area, organized in 1864, had acquired control of nearly half the field by 1870.

Early investigations of the geological formations

by Alexander, Tyson, Hodges, and others had disclosed by the latter date the greater part of the area as now known, so that the Maryland region may be regarded as past the prospecting stage before the outbreak of the war.

Virginia.—The coal mines of the Richmond basin were worked as early as 1750, and may have been the first opened on the continent. There are, however, no available records showing the production from that date until 1822, when the industry appears to have reached a mature state, with an annual production of about 50,000 tons. This increased continuously until 1832, when it began to decline. The cause for this falling off is unknown, but was probably due to the combined influence of increasing depth in mining, scarcity of labor and capital due to the interest in contemporaneous works of internal improvement, and to the rapidly increasing competition with Pennsylvania anthracite. During the earliest period of its prosperity the Richmond field furnished coal as far north as Boston.

No other coal deposits within the present limits of Virginia were worked extensively prior to the war. Small quantities of coal were mined in Botetourt, Pulaski, and Montgomery counties, the Price Mountain area furnishing the coal used by the *Merrimac* in its encounter with the *Monitor*.

West Virginia.—The coal fields of the present West Virginia were known in part in the latter portion of the Eighteenth century and coal soon came into use with blacksmiths, and a little later (1817) in the evaporation of salt. The development appears to have been very slow prior to 1835 on account of poor transportation from the Upper Potomac field and the little demand for Kanawaha coal along the Ohio. Between 1835 and 1840, the output increased rapidly, chiefly from the fields having an

outlet on the Ohio River, the tonnage reaching approximately 400,000 tons in 1840, and the growth of the industry keeping pace with that of Pennsylvania. With the exploitation of the coal fields north of the Ohio the river trade appears to have decreased, and the total tonnage continuously fell until the early fifties when the Baltimore and Ohio Railroad reached Piedmont. From that time to the present there has been a steady increase.

According to White, the first reliable statistics begin in 1873, but the foregoing statements appear to be confirmed by the figures given in the reports of the United States Geological Survey, though there is, of course, no separation of the output for "Old" and "West" Virginia prior to 1863.

The development of the coals of southwestern West Virginia are of much later date than the period under discussion.

North Carolina.—The coals are limited to the Deep River and Davis River basins, and have never developed an industry, the gross tonnage never exceeding the estimated 30,000 tons produced during 1862 and 1863. The history of the field is of interest, as showing the revival of a securely placed industry during war times, when its stronger competitors are cut off by cessation of the general trade and transportation relations. Prior to the war there is no record of production, except three tons in 1840. During the war the annual output averaged over 25,000 tons, while after the war, during the eighties, it dropped as low as 300 tons.

Georgia.—The production of coal shows a similar but less significant increase during the war. Subsequent to 1870 the industry had exhibited a small but steady growth. Prior to the war records are lacking, but the output was evidently small because of the inaccessibility of the deposits. The gross ton-

nage in 1860 is given as less than the daily output of scores of modern mines.

Alabama.—Although coal is said to have been used in the making of iron at Birmingham as early as 1836, the first work of mining was not until just before 1850, when coal on Trout Creek was exploited. Tuomey in his second report, published in 1858, but representing conditions nearly a decade earlier, says coal was worked in a small way for local blacksmiths along Short Creek in Marshall county, and that about 200,000 bushels had been taken from a bed at Tuscaloosa. The development of the industry was just starting when the war broke out. The production continued to increase slowly until 1863, when it began to dwindle, reaching a low production, estimated at 10,000 tons in 1870. At no time prior to 1872 did the annual tonnage exceed 15,000. In the succeeding decade the production passed the mark of a million and a half of tons.

Arkansas.—Coal was known to exist as early as 1818, but no call for fuel, other than wood, existed until after 1870 and thus no coal was mined.

Missouri.—The coals of Missouri are mentioned in the report of the Long Expedition as early as 1819, and they were probably known to exist for a long period before the scarcity of wood and the presence of inhabitants and manufacturies stimulated their development. Surrounded on the north, east, and south by coal deposits of equal or greater richness the market has been essentially local and dependent upon the demands from western Missouri and eastern Kansas. The total tonnage, due to rapid increase in population and poor transportation facilities, increased more rapidly than in any other Southern state, except Maryland. With the first records in 1840 the output was less than 10,000 tons. This grew regularly year by year until in 1865 the ton-

nage was forty-two times as much, placing Missouri among the first ten of the coal-producing states of the Union though yielding only about one-fiftieth of the total production.

Kentucky.—The coals of Kentucky lying along the Ohio were early known and utilized in a small way for local consumption and shipment down the Mississippi. The lack of the Pittsburg seam near the river on the northeast and the lack of population in the western field, retarded the development of the coal industry to the advantage of Ohio and Pennsylvania. The earliest statistics show a production of 328 tons in 1828. From that date until 1860 the industry kept pace with the growth in population and increasing use per capita, the tonnage in 1860 reaching 285,760 tons. During the decade succeeding, the production dropped to 150,000 tons, the normal not being reached until well along in the seventies. Through the work of the state geologist, D. D. Owens, most of the coal-bearing areas were known before 1860, though they remained more or less inaccessible until the decade preceding 1880, when the production increased rapidly.

Tennessee.—The coal areas of Tennessee were early known through the geological map of Gerard Troost published in 1835, but the annual production, according to available statistics, did not reach 1,000 tons until 1842. From that time the industry grew steadily with increasing demand, until 1860, when the production reached 165,300 tons. The industry suffered a sharp decline during the first three years of the war, but responded rapidly after the cessation of hostilities.

Slate.—The slate-quarrying industry of the South until very recently has been limited to the Peachbottom region of Maryland and the Buckingham and Amherst county region of Virginia. Quarrying in

each state may have commenced as early as 1750, but the first public buildings supplied were the capitol at Richmond in 1795, and a church in Maryland in 1805. During the thirties attempts were made to develop an industry but were unsuccessful. The arrival of trained slate-makers from Wales, between 1845 and 1850, marks the real beginnings of the Southern slate trade. Prior to 1870 the annual output did not exceed an average of a few thousand squares, which sold at prices somewhat higher than those obtained at present.

Salt.—The common use and necessity of salt has made it one of the first sought mineral deposits. Desired alike by animals, savages, and civilized men, the salt-licks and salt-springs have from the earliest times been centers of interest and often the nuclei of settlements.

In the South the presence of this material in Louisiana, Virginia, and West Virginia was learned from the Indians by the earliest settlers. All of the earlier product was obtained solely by the evaporation of brines from the sea, natural salt-springs, and artificial salt-wells. Rock salt, moreover, was not discovered until 1840 in Virginia, and 1862 in Louisiana. The first records of salt-making in the South from brines (exclusive of sea-water) date from 1726 in Louisiana, 1753 along the Kanawha in West Virginia, and 1771 in the Holston Valley of Virginia.

Virginia.—The least important of three major sources of ante-bellum salt manufacture in the South was that of the Holston Valley in the vicinity of Saltville, where wells were driven to a depth of between 200 and 300 feet to a saliferous clay.* Rock salt, which was discovered in 1840, at a depth of 210 feet, in sinking a shaft for brine, was not utilized, as the process of artificial leaching of the brine was not

* Rogers, W. B., *Geology, Va.*, 1835.

then practised. For a time this area produced* from half a million to a million bushels (100,000 to 200,000 barrels) of salt annually, but this larger output occurred after the revival of interest in 1870. At one time during the war the output was estimated as being as high as 2,000 barrels a day.

West Virginia.—The region of the Great Kanawha, about Charleston, prior to the development of the salt works in Michigan,† was the most important source of salt for a wide territory along the Ohio and Mississippi. The first "kettle" was erected at the Kanawha salt spring in 1797, although the place had been known and utilized by the Indians for at least half a century. The capacity of the works, 150 pounds per day, was increased rapidly with a reduction of price, and shipments westward were made as early as 1808. Nine years later (1817) the first salt company was formed and coal commenced to be used in evaporating the brines. Steam pumps were introduced for raising the brine in 1827, and steam evaporation became common after 1835. The annual production rose rapidly from 1,500 barrels in 1808 to 350,000 barrels in 1834, then slowly to a maximum of nearly 650,000 barrels in 1846, decreasing to an average of 250,000 barrels by 1855. Since that time it has maintained about the same standard of production.

Louisiana.—The salt production of this state has been derived chiefly from the deposits of Petite Anse‡ and the salt-lakes in the northwestern part of the state. Indians are known to have made salt here as early as 1726, and the remains of old pottery and abandoned workings indicate long-continued frequenting of the region. The salt springs at Petite Anse were rediscovered in 1791, three years after

* Watson, T. L., *Min. Res. Va.*, 213.
† After 1860.
‡ Veatch, A. C., *The Five Islands*, La. Geol. Surv. 1899, 1900, 210–262.

the establishment of the first works in New York. Solid salt was discovered here in 1862, when, on account of the blockade a trade "of forty baskets a day" was rapidly developed. It is estimated that from 10,000 to 30,000 tons were obtained before the "island" was taken by Federal forces in 1863. Immediately after the war this region was examined and works established. Prior to 1883 the transportation facilities were unsatisfactory and the development ceased.

The salt-licks of northwestern Louisiana were the scene of annual gatherings of the settlers to boil their supplies of salt, "but for sometime prior to the Civil War, as at present, the localities were deserted.* During the war they again became the scene of great activity, companies, neighborhood delegations, and families flocking to them for a supply of the much-needed article, which was distributed to the trans-Mississippi, going as far as Alabama and Georgia, alongside of the Petite Anse rock salt." These licks are of little economic importance under ordinary circumstances because of the weakness of their brines.

BIBLIOGRAPHY.—GENERAL MINING.—Daddow, S. H. and Brannon, Benjamin: *Coal, Iron and Oil* (Pottsville, Pa., 1866); Eckle, E. C.: *Cements, Limes, and Plasters* (New York, 1905); Ingalls, Walter R.: *Lead and Zinc in the United States* (New York, 1908); Kemp, James M.: *Ore Deposits of the United States* (3d ed., New York, 1900); Merrill, George P.: *Non-Metallic Minerals* (New York, 1904); Merrill, George P.: *Building and Decorative Stones* (3d ed., New York, 1903); Reis, Heinrich: *Clays, Occurrence, Properties, and Uses* (2d ed., New York, 1908); Weed, Walter Harvey: *Copper Mines of the World* (New York, 1908); Whitney, J. D.: *The Metallic Wealth of the United States* (Philadelphia, 1854); *The Mineral Industry* (New York, 1892—); United States Geological Survey: *Reports, Professional Papers, Bulletins, and Mineral Resources;* for bibliography see Bulls. Nos. 127 (1732-1891), 188-189 (1892-1900); 301 (1901-1905), also Bulls. Nos. 122, 215, 222, 227. GOLD.—Dickson, J.: *An Essay on the Gold Region of the United States* (Geol. Soc. Penna. Trans., Vol. I, 1835, pp. 16-32); Johnson, W. R.: *Some Observations on the Gold Formations of Maryland, Virginia, and North Carolina* (Amer. Asso. Adv. Sci. Proc., Vol. IV, 1851, pp.

*Hilgard, E. W., *Salines of Louisiana*, Min. Res. U. S., 555.

20-21); Mitchell, E.: *On the Geology of the Gold Region of North Carolina* (Amer. Jour. Sci., Vol. XVI, 1829, pp. 1-20; Vol. XVII, 1829, p. 400); Nitze, H. B. C., and Wilkins, H. A. T.: *Gold Mining in North Carolina and Adjacent South Appalachian Regions* (N. Car. Geol. Surv., Bull. No. 10, Raleigh, 1897); Olmstead, D.: *Gold Mines of North Carolina* (*Amer. Journ. Sci.*, Vol. IX, 1825, pp. 5-15); Phillips, W.: *Essay on the Georgia Gold Mines* (*Amer. Jour. Sci.*, Vol. XXIV, 1833, pp. 1-8); Rothe, C. E.: *Remarks on the Gold Mines of North Carolina* (*Amer. Jour. Sci.*, Vol. XIII, 1828, pp. 201-217); Yeates, W. S., McCallie, S. W., and King, F. P.: *Gold Deposits of Georgia* (Geol. Surv. of Georgia, Bull. 4A, 1896). IRON.—Alexander, J. H.: *Reports on the Manufacture of Iron* (Annapolis, 1840); Grimsley, G. P.: *Iron Ore, Salt, and Sandstone* (W. Va. Geol. Surv., Vol. IV, Morgantown, 1909); Lesley, J. P.: *Iron Manufacturers' Guide* (New York, 1859); Swank, James M.: *Iron in All Ages* (2d ed., Philadelphia, 1892). COAL.—Gesner, William: *On the Coal and Iron Resources of Alabama* (Philadelphia Acad. Sci. Proc., Vol. XVIII, 1876); Lesley, J. P.: *Manual of Coal* (Philadelphia, 1856); MacFarlane, James R.: *The Coal Regions of America* 3d ed., New York, 1877); Taylor, Richard C.: *Statistics of Coal* (Philadelphia, 1848, 2d ed., 1855); Aldrich, T. H.: *Historical Account of Coal-Mining Operations in Alabama Since 1853* (Alabama Geol. Surv. *Report* for 1875, 1876); Clark, W. B., *et al.*: *Report on the Coals of Maryland* (Md. Geol. Surv., Vol. V, pt. iv, Baltimore, 1905); Grammer, John, Jr., *Account of the Coal Mines in the Vicinity of Richmond, Va.* (*Amer. Jour. Sci.* Vol. I, New Haven, 1818); Hotchkiss, Jed.: Various articles in *The Virginias* (Vols. I-III); Parker, E. W.: *Coal* (in Mineral Resources of the U. S., 1889-1909); McCallie, S. W.: *Coal Deposits of Georgia* (in Geol. Surv. of Georgia, Bull. No. 12, 1904); White, I. C.: *Report on Coal* (W. Va. Geol. Survey, Vol. II, Morgantown, 1903, pp. 81-725, Vol. IIA, Morgantown, 1908); United States Geological Survey: *22d Annual Report*, Pt. III, Coal, Oil, Cement, contains the following: Ashley, G. H.: *Eastern Interior Coal Field* (pp. 265-305); Hayes, C. W.: *Coal Fields of the United States* (pp. 1-24); Hayes, C. W.: *Southern Appalachian Coal Field* (pp. 227-263); Taff, J. A.: *Southwestern Coal Field* (pp. 367-413); Woodworth, J. B.: *Atlantic Coast Triassic Coal Field* (pp. 25-53).

EDWARD BENNETT MATHEWS,
Professor of Mineralogy and Petrography, Johns Hopkins University.

MANUFACTURES.

COLONIAL MANUFACTURES.*

ONE purpose of the commercial company that founded the first English settlement in America was to establish there manufactures, and the favor this project received from the British government was due in part to a desire to have new industries domiciled within its dominions. The settlement upon the James was immediately provided with skilled workmen from Italy, Hamburg, and the Baltic countries, to erect sawmills and to manufacture glass, tar, and potash; and the first vessel that returned from Virginia to London carried specimens of such products, together with a cargo of riven lumber. During the massacre of 1622 the Indians destroyed, in the vicinity of the present city of Richmond, the first iron works established in what is now the United States, killing the manager and many of the 150 skilled iron workers who had been brought from England to assist him.

This design of fostering in America the production of such raw materials as could not be obtained in England for want of natural resources was consistently pursued by the British authorities throughout the colonial period. This policy was based upon the prevailing doctrine that colonial dependencies should be subordinated, as far as their economic life was concerned, to the welfare of the mother country, and should not compete with England in those fields—chiefly manufacturing—

* Acknowledgment is made of assistance rendered by the Carnegie Institution of Washington in the collection of data upon which the articles on Manufactures are based.

where British interests were dominant. Therefore manufacturing for export was wholly forbidden and even at times manufacturing for subsistence, which might limit the demand for British goods in the colonies, was discouraged. This policy always involved sacrifices in England as well as in America and individual welfare was everywhere deemed secondary to the needs of the empire as a whole.

In the earlier period this policy concerned itself less with the question of manufacturing than with that of procuring from the colonies such raw materials as would relieve England from dependence on continental states. In the Seventeenth century, in the days of wooden ships and canvas-winged navies, England lacked within her own borders the materials from which the instruments of sea power were created. Her oak forests were fast disappearing, and she was dependent upon Scandinavia for ship timber, masts, and spars. For hemp and cordage she must look to Russia and Poland, and for tar and pitch to those countries and Sweden. With the depletion of local timber resources came lack of fuel—for coal was not yet employed in the industrial arts—and therefore iron smelting declined or was restricted by law, and the manufacture of glass was discouraged. Consequently it was but natural that the advisers of the Crown and that Parliament should look to America for such supplies; since fine timber was known to abound along the Atlantic coast, and it was supposed that the industrial metals would be found in the same localities. For fuel and timber and manufactures based upon the mine and forest, therefore, America was sought; and also incidentally for silk, cotton, and other fibers, for which England was dependent upon the Mediterranean countries, the Far East, and the West Indies.

England also hoped by means of colonies to create in America an exclusive market for her own merchandise. At first the expanding population of the new countries across the sea was not anticipated, and the importance of their future commerce was pictured in the prospectuses of promoters rather than considered in the sober councils of state. But soon after the restoration, and especially after the revolution of 1688 assured political ascendancy to the mercantilist and property classes, the British government sought sedulously to protect the colonial market, not only from European rivals but even from the competition of the colonists themselves. The great staple industry of England at that time was the manufacture of woolen cloth; and in 1699 the colonies were forbidden to ship woolens of their own making from one place to another, and the production of such fabrics in America was otherwise discouraged. A half century later even more stringent measures were taken to prevent the growth in the colonies of reproductive iron manufactures. England also guarded and restricted the colonial manufacture of hats, which on account of the cheapness of furs in America threatened to become a competing industry.

However, this hostile policy was not adopted at once, and never was fully enforced. In fact the Southern colonies, except at times Virginia and Maryland, never gave the mother country concern as industrial competitors. From the Chesapeake southward staple agriculture absorbed the energy and capital of the settlers. Planters produced tobacco, rice, and indigo with which to pay for British goods more cheaply and conveniently than they themselves could manufacture them. The introduction of negro labor fresh from savagery and untrained in handicraft, the rapid dispersion of pop-

ulation in search of virgin land which wasteful methods of cultivation rendered necessary, and the direct traffic between each plantation and its London factors, which the numerous rivers, bays, and inlets of the South Atlantic coast made possible, prevented in the Southern colonies the development of inland communication, the growth of towns, and that coöperative constitution of society which is most favorable to manufacturing industries.

Nevertheless in Virginia and Maryland the dependence of the planters upon a single crop subjected them to crises, when tobacco was either too scarce to make a return for imported merchandise or too low to pay a profit, or when the British market was cut off or rendered precarious by foreign wars, in which the people were driven to domestic manufactures to supply their immediate necessities. Consequently the household arts of the spinning wheel and loom, and the craft of the tanner, the shoemaker, and the county mechanic were always cultivated even in the days when the chief energies of the colonists were absorbed in the raising of materials for export. A contemporary record tells of a pioneer planter in the lower counties of Virginia who, in the words of the writer, "sows yearly store of hemp and flax and causes it to be spun; he keeps weavers and hath a tan house, causes leather to be dressed, hath eight shoemakers employed in their trade, hath forty negro servants, brings them up to trades in his house." Nearly forty years later, in 1685, Colonel Byrd, the elder, wrote of the rivalry among his servants as to who could spin the most cotton. The Virginia Assembly encouraged manufactures by forbidding the export of wool, by giving premiums for homespun cloth, and by requiring county authorities to set up public looms and tanneries, with shoemakers' shops—thus

in fact establishing government industries. In the Seventeenth century, also, a public spinning school was founded at Jamestown, in a building erected for its use, to which poor children from each county might be sent. On the eastern shore of Maryland, especially in Somerset, were woolen and linen manufactures that added some reputation to that district, and at times the legislature of this colony gave public encouragement to home industries. The Huguenots in South Carolina and the Moravians in Georgia brought with them the habits and skill of hereditary artisans, which they applied to spinning and weaving cloth for their own consumption, and in Georgia to raising silk. Thus throughout the Southern colonies the household arts were maintained, reviving or declining inversely as staple agriculture was prosperous or depressed, and ready to spring into vigorous industries as soon as the supply of imported goods was interrupted or the growth of population invited to diversified pursuits.

During the first century of settlement the production of such raw materials as lumber, iron, and naval stores, which were among the objects of colonization, did not thrive south of the Potomac, chiefly because they likewise yielded place to staple agriculture. But after 1700 a number of causes favored their extension. The British parliament established bounties on naval stores produced in the colonies, which were in some cases supplemented by the local governments. Virginia had from early times sent annually to England a few barrels of pitch and tar, but this interest now acquired additional importance and in the Carolinas became a staple industry. The abundance of pine and the high cost of labor caused crude processes to be followed, destructive to the forests and injurious to

the product, but gradually Southern tar made its way into commerce and secured acceptance in British shipyards. By 1719 South Carolina supplied for the use of the navy 32,000 barrels of tar alone, besides pitch and turpentine; five years later the exports of these three commodities amounted to 52,000 barrels; and thereafter, though the increase was not so rapid, the industry remained progressive and important.

The fall line of the rivers that flow into the Atlantic recedes from the coast as one goes southward from New England, and as a result settlement extended inland toward the region of water power more slowly in the Southern than in the Northern colonies. The sluggish streams of the lower counties of Virginia and the Carolinas afforded few sites for sawmills, and for a century or more most of the timber products of those provinces were riven timber, split with the ax and wedge, such as staves, heading, clapboards, and shingles. These commodities formed from the first important articles of commerce, especially to the sugar and wine islands, and the proceeds of his pipestaves returned to many a lowland planter in the form of casks of Madeira or puncheons of Jamaica rum, or as molasses, sugar, and even Barbadoes cotton. After the middle of the Eighteenth century shipbuilding, not unknown at an earlier day, became an industry of real importance for the time in Maryland and Virginia, and at Charleston. So rapid had been the clearing of the Northern forests adjacent to navigable waters, that already New England and the central colonies began to lack accessible ship timber. This turned the more to the advantage of the South because about the same time live oak was found to be perhaps the finest material in the world for wooden vessels. South Carolina had, in 1750,

LOADING LUMBER FOR EXPORT IN HARBOR, PENSACOLA, FLORIDA.

five shipyards, in which, prior to the Revolution, twenty-four square rigged vessels and numerous other craft were built. During the three years ending with 1771, the Southern colonies built about one-sixth of the shipping constructed in America, or an average of nearly 3,500 tons a year.

For almost a hundred years after the pioneer iron enterprise in America came to so tragic a conclusion, no further attempt was made to erect furnaces or forges south of the Potomac. But during the first quarter of the Eighteenth century both English and colonial capital were enlisted, on a large scale for the day, in establishing and developing this industry in Virginia and Maryland, with the result that several large furnaces were built in both provinces and pig iron and bars were exported to Great Britain. The Principio Company operated four furnaces and two forges on the Chesapeake and Potomac. With this company were associated the Washingtons, on whose Virginia lands some of the works were located. Early in the century Colonel Spotswood built furnaces near Fredericksburg, and he probably was the first ironmaster in America to use a remelting furnace for casting hollow ware. Throughout the lower counties of Virginia, and doubtless elsewhere in the central and southern colonies, his pots and kettles were peddled from house to house like tinware at a later day. But the main purpose of the first Southern furnaces was to produce pig iron for export to England, where it was refined and manufactured into nails, tools, implements, and hardware, and in that form often shipped back to the colonies. These exports probably began in 1718 with a small consignment of less than four tons. Ten years later a regular commerce in this article began, the amount of pigs and bars together sent to England in 1730 ex-

ceeding 2,000 tons. Thereafter these two colonies supplied most of the American iron shipped to the mother country, though its annual amount seldom exceeded the quantity just mentioned. The production of the furnaces along the upper Chesapeake and Potomac was doubtless growing, but home consumption rose more rapidly than the output. From about the middle of the century the Massachusetts and Rhode Island ironworkers looked to Maryland and Virginia for metal. By the time the colonies declared their independence there were furnaces, forges and bloomeries throughout the back country of the South, making pots and kettles for household use and for the potash and maple sugar camps, as well as plow shares, wagon tires, hoes and axes for the frontiersmen. Before the Revolution Carolina hoes were advertised for sale in New York. Until destroyed by the Tories, Hill's ironworks, in South Carolina, and the Westham furnace, near Richmond, cast cannon for the patriots. Southern ironware was tougher than that imported, enduring better the rough usage of the pioneers. The mountain bloomeries, where wrought iron was made directly from the ore, were merely large blacksmith's forges with a hearth, at which rich ores were reduced in a charcoal fire to a form suitable for nails and implements.

Bricks were made in Virginia immediately after the first settlement, and from that time onward were commonly manufactured in the South for local use, and an occasional cargo was shipped to the British colonies in the West Indies. Coarse stoneware may have been made here and there and no record of the fact preserved. The first settlers of Georgia manufactured pottery, which they shipped to South Carolina, and discovered finer clays from which they proposed to make white ware. At Sa-

lem and Camden potteries were established shortly before the Revolution, the latter of which, though shortlived, caused concern to Wedgewood and other British manufacturers. For the Carolinas and Florida supplied clays for the first porcelain works in England, and Wedgewood continued to procure part of his raw materials from the latter province. Yet the presence of kaolin in the plantation colonies did not create an industry, and we know of no fine pottery made in the South during this period.

Two influences coöperated to modify the economic life of the Southern colonies after the middle of the Eighteenth century, the settlement of the interior highlands and the rise of small farming. The mountain immigrants were mostly Scotchmen, Scotch-Irish and Germans, many of them from Pennsylvania. In Virginia and the Carolinas they introduced a non-slaveholding or small slaveholding element of artisans and small cultivators, while in Maryland they influenced to no small extent the subsequent trend of agricultural and industrial development. Occupying a country less adapted to large plantations than the seaboard counties, they followed subsistence farming; and on account of their remoteness from the coast, the abundance of water power, and the traditions they brought with them, as well as because they lacked a staple crop to exchange for foreign wares, they turned their attention to mill building and household manufactures. They raised their own wool, cotton, flax, hemp, and hides, and made them into clothing, shoes, and harness, while their own mines, mills, and forges supplied them with utensils and implements. Live stock, which carried itself to market over rough trails, was the first merchantable product of the farms; but as soon as roads were broken through to navigable rivers the settlers began to

cart flour, butter, and other provisions to market. Meantime in the older settlements some districts were compelled to relinquish tobacco cultivation on account of exhausted soil, and the fields formerly occupied by this crop were sown with grain. As a result, during the last decades of colonial dependence Maryland and Virginia became exporters of wheat and flour. Baltimore, Richmond, and Petersburgh were milling centres, and the rapid rise of the first of these cities to commercial prominence was largely due to its trade in flour, grain, and flaxseed. In North Carolina, Charlotte was a milling town of some reputation, and mills were established as far south as Camden. About the same time sawed lumber became an export from the Carolinas. Upon the whole, the last half of the Eighteenth century, before the influence of the cotton gin and Arkwright's inventions was fully felt in the South, was a period when agriculture yielded some ground to primary manufactures and household industries.

During the greater part of colonial history the Southern planters assented willingly enough to the British policy of maintaining the American settlements in commercial as well as political dependence, and except when pressed by temporary necessities they engaged in no industries that seriously competed with those of Great Britain. North of Maryland there had been constant chafing under the restraints upon commerce and manufacturing imposed by the royal authorities, but nowhere in the plantation provinces, except perhaps at the outset in the sugar and tobacco colonies, was such dissatisfaction caused or expressed. In sentiment as well as in conduct was the South content with this feature of British rule, and it was not until the beginning of the revolutionary movement in 1764 and

1765 that any complaints against the trade laws as a whole were raised.

After the passage of the Townshend acts many groups of colonists entered into non-importation agreements designed to throw consumers upon their own resources by cutting off the supply of imported goods. The upholders of this policy made strenuous efforts to turn their fellow colonists in the direction of specific industries or manufacturing enterprises whereby dependence on Great Britain might be lessened. The effect of such appeals in the Southern colonies was probably very slight, partly because manufacturing ran counter to the traditional taste and employment of the people and partly because temporary expedients of that kind had little attraction for those with capital to invest. No record is left by which we can trace in detail the progress of manufactures during these years preceding the revolt of the colonies, nor can we measure it indirectly through the statistics of trade. The importations from England declined rapidly with each political crisis, only to be resumed more actively than ever when the period of excitement had passed; and the temporary dearth of foreign commodities thus occasioned may have been tided over by abstinence and economy rather than by increasing the product of local industry. Meantime, however, the people were being educated in the idea that a close connection existed between industrial independence and political independence, and all the motives of patriotism came to the support of a policy that encouraged the former as well as the latter. The account books and letters of this period show how frequently the planters employed their poorer white neighbors at spinning and weaving cloth, and how they themselves built loom houses and trained their slaves in the household arts.

Correspondents besought the exporters of indentured servants from Ireland to send spinners and weavers for the Southern households. After the war with England this feeling continued, and habits taught in the stress of conflict survived to such a degree that when the constitution was adopted homespun industries were said to be more active in the South than in the central colonies and New England. This condition continued until the war of 1812, the census of 1810 recording—although from incomplete returns—more homespun cotton manufactures in Virginia, South Carolina, and Georgia than in the thirteen other states and territories combined, more flax spun in Virginia than in any other state, and throughout the South a general activity in these and allied pursuits. At Charleston and Augusta were mechanics' societies —possibly with political as well as industrial objects—and in the latter town were made some of the earliest attempts in America to improve the steam engine. Power and automatic machinery were applied to spinning cotton in South Carolina, though without permanent success, before Slater built the first Arkwright mill in Rhode Island. As early as 1787 jennies seem to have been used near Charleston, in 1790 spinning frames driven by water were reported in operation near Statesburg, and only one year later carding and spinning machinery was set up in eastern Tennessee.

However the industrial progress of these years was irregular and local rather than general and permanent. During the earlier part of the Revolution, when the northern ports were blockaded or occupied by the British, supplies from Europe entered the colonies through Charleston and by way of the intricate and inaccessible inlets to the southern coast; while from the Chesapeake privateers

and blockade runners made frequent and profitable trips abroad. A regular intercourse was maintained with France, Holland, and the West Indies. Members of the same family simultaneously controlled firms in Great Britain, France, and America, maintaining thus a roundabout commercial amity in the midst of political hostilities. Consequently it might be easy to overestimate the effect of the war in cutting off the colonists from their usual supplies of manufactures, and thus compelling them to provide such articles from their own resources; for seldom was it absolutely impossible to obtain what was needed for military purposes, home comfort, or even luxury. The main difficulty was to pay for these things—the crisis was one of povery rather than of famine. Prices were high and currency depreciated. The war acted as a protective tariff in checking foreign competition, but did not afford industrial capital to supply a protected market or consumption to support one. In spite of the demand for iron for military purposes, added to the usual home requirements, the forges of Maryland appear to have been neither as active nor as profitable as prior to the outbreak of the war. Flour mills were in part shut down, the lumber trade with the West Indies was hampered. Tobacco was almost the only commodity that was compactly valuable enough to pay profit on a risky voyage. When, after peace had been concluded, we began a series of trade wars with Europe, and by embargoes sought to compel the powers to give us equal rights upon the sea, the commercial situation was more favorable to local industry; but the high price of provisions abroad turned the attention of America to agriculture rather than to manufacture. In the South, at least, our foreign relations, whether of peace or war, did not of themselves, during this

epoch of our history, create important or permanent industries.

Therefore prior to the war of 1812 the advance of Southern manufactures was principally in what were then household arts—those that produced for the subsistence of the family rather than for an outside market. These manufactures continued generalized and dispersed rather than specialized and integrated. There is little evidence even of that rudimentary localization that for a century and a half had characterized some industries in New England and Pennsylvania. This did not indicate stagnation, but rather an adaptation of manufactures to the economic constitution of Southern society. In their aggregate these manufactures were for the time considerable; but they were so distributed and combined with other productive activities as to lose their identity in contemporary records.

BIBLIOGRAPHY.—Our information for the early colonial period comes in part from contemporary pamphlets, the more important of which have been republished in Force's *Tracts* and Brown's *Genesis of the United States*. The first volume of Bishop's *History of American Manufactures* contains an old and incomplete but fairly satisfactory treatment of the subject. Bruce's *Economic History of Virginia in the Seventeenth Century* is the best authority for this particular colony and period. The *Westover Manuscripts* (Bassett, ed. 1901), the various publications of different state historical societies; Hening's *Statutes at Large of Virginia*, and the printed colonial records of Maryland, North Carolina, and Georgia, all contain accessible but badly scattered material. The best history of the Principio Company will be found in the *Pennsylvania Magazine of History* (Vol. XI, 63, 190, 288). For additional bibliographical references see bibliography to article, "Influence of British Colonial Policy upon the South during the Colonial Period" in this volume.

VICTOR S. CLARK,

Collaborator in Charge of Division of Manufactures, Economic History, Carnegie Institution of Washington.

MANUFACTURES DURING THE ANTE-BELLUM AND WAR PERIODS.*

During the fifty years preceding the Civil War the people of the South, after for a time half emerging from their exclusive devotion to staple agriculture, were again absorbed by that single pursuit. The causes of this industrial reaction are generally assumed to have been due to the invention of the cotton gin, the market for cotton created by Arkwright's machinery, and slavery. But these underlying influences require explanation to show why, with idle white labor, abundant raw materials, and ever present water power, more manufactures did not arise. Cotton planting engaged the labor of the negro and the thought and capital of a directing white class; but the natural operative population of the South remained largely unemployed, though the capital of the North and of Europe was mobile enough to flow to the point of maximum profit, without regard to sectional or national lines, were such a profit promised by Southern factories.

Staple agriculture and the presence in the South of the negro were already responsible for the continuance of the institution of slavery. Cotton planting merely gave new life to this institution and increased the race problem. Upon manufactures slavery as a system possibly had less direct influence than is usually assumed; but the presence of the negro, whether slave or free, was important. In the first place, as shown by the effect continuing after emancipation, immigrants avoided districts having a large colored population; and during this period much of the mechanical skill of America and many of its industries were imported. Our early

*For additional information see article "Utilization of Southern Water Powers."

cotton and woolen mills were started by British mechanics, as were our first permanently successful steel, glass, and porcelain industries. Germans contributed chiefly to make Pennsylvania the principal manufacturing colony during the Eighteenth century, and thereafter brought many new arts to America. As late as 1850 Effingham county, Georgia, preserved industries introduced more than a century before by the pioneer Moravian settlers. The Huguenots in South Carolina, the French family of DuPonts in Delaware, the Gallegos and Chevaliers at Richmond, and the Portuguese of Rhode Island, have been founders of manufactures which have persisted to the present, or they have brought to greater perfection than hitherto arts already known but rudely practised. The land seekers and industrial workers who came to America from Europe during the first half of the last century did not have capital to acquire slaves, many of them disapproved of that labor, all of them avoided competition and contact with the colored race. Consequently the South did not receive their skill and industrial initiative.

The plantation system, made possible by negro labor, also affected the distribution of settlement and continued those conditions which in colonial days had checked mechanical pursuits in the South. The area of slave cultivation included the fertile lowlands, where the population became scattered in isolated plantations. Such communities were without the economic need that existed in the North for active local intercourse, and consequently their means of communication were relatively less developed. These plantation districts interposed a barrier separating the small farmers of the highlands, who otherwise might have built up manufactures, from the sea and made them economically and po-

litically dependent on the tide-water at the same time that distance and lack of facilities for transportation cut this back country off from the industrial states to the northward. Therefore the mountain settlements were likewise isolated and thrown upon their own resources, preserving the primitive economic status of colonial times.

The dominance of cotton culture controlled the commercial relations of the South with Europe and with other parts of the United States in a way not favorable to diversified industries. Influences which we need not here discuss caused cotton to be raised largely upon credit, through advances from factors. These middlemen, who also handled the cotton and the imported merchandise of the planters, by these three operations drew to their own pockets a large part of the profit from that crop. They directed capital to the industry from which they derived their gain. This method of doing business which in the older sections of the South survived from colonial times and in the newer portions followed of necessity, was supported by habits and social traditions, and later by political sectionalism, which brought manufactures if not into positive disapproval at least into apathetic disregard.

Until the abolition of the corn laws in England, the economic ties between that country and the Southern states were as intimate, and as distinct from the relation of the Northern states to England, as they had been during the colonial period. Great Britain either prohibited the importation of American cereals, lumber, provisions, and other Northern staples, or else burdened them with such heavy duties that they were unremunerative. But in response to the demands of her manufacturers, she rapidly lowered the duties on cotton, and at length abolished them altogether. Consequently

there was a reciprocity in the commerce of the South with this most important of trading nations which did not exist in the case of the North and West, and which in the former section of the country was as unfavorable to manufactures as in the other sections it was favorable.

Nevertheless the South chafed continually under the discomfort of an ill-balanced economic system, and long before the war its thinking men were groping, with ever clearer insight into their value, towards diversified industries and greater industrial independence. That these efforts were so long abortive was due in part to lack of experience in coöperative undertakings, partly to the difficulty of stemming with the products of infant industries the strong current of commerce in imported wares that the exchange of cotton reënforced, and partly to banking methods and a system of private finance unfavorable to local manufactures.

In 1812,* under the stress of war, South Carolina manifested enough public interest in manufactures to offer a bounty to a cotton mill. In 1827 the Georgia and Virginia legislatures were memorialized to encourage cotton manufactures and to ascertain whether negro labor could be employed in this industry. The following year the Assembly of Virginia debated and incorporated the Rappahannock Manufacturing Company; an event supposed to indicate lessening hostility to industrial undertakings. Ten years later a legislative committee appointed to report on the practicability of manufactures in Virginia found $11,000,000 employed in the industries which it investigated. In 1840 the North Carolina spinners held a convention at Raleigh, partly to control the yarn market, but also

*For earlier undertakings in Maryland and Georgia see article "Utilization of Southern Water Powers."

with a view to promoting cotton manufactures in that state. The Southwestern Convention, which met at Memphis in 1845 and was addressed by John C. Calhoun, appointed a committee on manufacfactures and resolved that planters ought to invest in local manufacturing enterprises. In 1847 the Georgia legislature appointed a committee to report on the progress of manufactures in that state, and in 1851 the same body made some attempt to encourage iron works. The latter year the Virginia manufacturers met in convention at Richmond to consider measures for promoting industrial interests. Another Southern convention at Memphis, in 1853, directed a committee to advertise, particularly in the manufacturing districts of Europe, the peculiar facilities afforded by the South for cotton factories. The next year a convention at Charleston, attended by several governors, advised the appointment of state committees on manufactures. Georgia was already exempting from taxation manufacturing plants and the stock of manufacturing corporations, and some sentiment was manifested in favor of granting bounties to such enterprises. But more than counterbalancing these sporadic and sometimes perfunctory resolutions and encouragements was a wide-spread popular prejudice against manufactures—such as had been common to a much larger section of the Union a few decades before—and a general disposition to regard the South as unfitted for large industrial undertakings.

Without highways and railways, without machinery, urban expansion, and modern material improvements which characterized the Nineteenth century, the people of the Southern back country and the poorer whites elsewhere continued the customs of the pioneers. They spun and dyed the

cloth they wore, made the implements they used, and raised the provisions they consumed. Therefore throughout the inland districts of the coastal states, and in Tennessee and southern Kentucky, homespun manufactures survived, though they had disappeared from New England and become uncommon everywhere north of the Ohio. So general was the pursuit of such household arts that when hostilities broke out, in 1861, and the South was cut off from imported goods, these industries quickly extended to take their place. In Alabama the state bought cotton and wool cards for the poorer inhabitants, a useless bounty if the people had not been trained to their use. The spinning wheel was everywhere employed; but by 1820 hand jennies were familiar, and in 1825 one Cincinnati factory was selling, mostly in the South, to the extent of $20,000 annually, machines which by the operation of a single crank ginned, carded, and spun simultaneously six threads of cotton.

Between 1810 and 1860 three periods of progress marked the factory development of the cotton states. During our last war with England, when inland transportation was still imperfect and sea supplies were largely cut off by war and by the commercial policy of the government, mill builders from the North migrated to the Southern highlands, and with local coöperation established small yarn factories at several places in the Carolinas, Georgia, Tennessee, and Kentucky. The last state had even before this raised its homespun manufactures to the commercial stage, supplying tow linen regularly to the western country; and Lexington, Frankfort, and Louisville were promising mill towns. During the decade ending with 1833, when hostility to the tariff made the Southern people bitterly resent economic dependence on the North, there was

a second movement towards manufactures, especially in South Carolina and Georgia, directed mainly towards the erection of larger and more complete factories. This agitation bore fruit in some corporate enterprises, most of which had but qualified success. Finally, in the late forties real factory development began spontaneously at several points, and had not two financial crises and a war checked its progress, we should probably date from this time the beginning of the modern epoch of cotton manufacturing in the South.

The mill stands between the farmcrafts and the factory; and before the war, in spite of industrial cities like Lowell, Lawrence, and Pittsburg, the manufactures even of the North were rather in the mill period than in the factory period of development. Like the mechanic's shop or the household artisan, the mill supplied a neighborhood demand from local materials, often in coöperation with home workers. Sawmills, gristmills, carding shops, and fulling mills, worked for toll. Like the shoemaker and the blacksmith they performed a specific service for pay, and they engaged only in a subordinate way in the circle of commercial operations that begins with the purchase of raw materials and ends with the sale of finished goods. For the latter end, the organization of exchange and the development of communication in many parts of the South were still too primitive. The number of small carding and fulling mills, and of little water-driven yarn factories, in this section before 1850, may have approached the number of textile factories in the same region to-day; and mountain bloomeries, where iron was forged intermittently for farm use, probably outnumbered the furnaces of the present time; but few of these establishments became commercial producers. Nevertheless they filled an important place

in the economic life of the people, and kept alive the tradition and habit of making things. Except in the vicinity of the coast and along some great river bottoms they were widely enough distributed to be familiar to almost every Southern neighborhood.

The relative dispersion of manufactures in the planting sections and the commercial sections even of the South is suggested by the scanty official returns of 1810, which indicate that there were six spinning frames in Maryland, seventeen in Virginia, fifty-six in North Carolina, and ninety-one in Georgia—but that the six frames in Maryland carried more spindles than did the ninety-one frames in Georgia. The scanty census data of a decade later are too defective for generalization; but nine cotton mills in Maryland reported 11,000 spindles, while twenty-one mills widely scattered throughout Kentucky had less than 7,000 spindles. The largest mill reported in Kentucky was about the size of the average mill in Maryland. Many of the spinning frames reported in 1810 were operated by hand or horse power; but after 1812 they were generally run by water, and as early as 1815 Lexington had a steam cotton factory. About the same time water-driven wool cards, which delivered wool in rolls for spinning on the wheel, became common, especially in Tennessee and the highland districts of Virginia. The fourth census showed some differentiation into manufacturing localities, both by states and by districts and cities, but this was hardly sufficient to foreshadow industrial integration. Up to 1820 the extreme progress of Southern textile manufactures stopped at the second stage of development, from the hand card and spinning wheel, which still held their own, to the water card and small yarn mill, which supplied materials for the household loom.

The typical cotton mill of the earlier period was little more than an expansion of the plantation spinning house, to which power machinery and, as time went on, something of a commercial market were added. During the war of 1812 Governor D. R. Williams operated such a mill on his plantation at Society Mill. He closed down during the depression that followed peace, but resumed about 1820; and in 1828 he was turning his cotton crop, of 200 bales annually, into what was said to be the best yarn in the United States. He marketed part of his output in New York and wove part of it into negro cloth for home use. A cottonseed oil mill, which was running here about the same time, may have been part of this establishment. Twenty years later the factory was still shipping yarn to New York, and also making cotton bagging for the neighboring plantations. The small mills in most of the Southern states had a similar history, though few were conducted in so direct a connection with a plantation. By the middle of the century their product is said to have controlled the Northern yarn market. This market they were able to enter because they had been supported through infancy by the local demand for yarn for homespun weaving—a support they did not entirely dispense with until after the war. Yarn was traded by the mills for homespun linen warp, and woven with that warp into strong cloth for country use. The family weavers who did this work were paid for their labor in cotton yarn. Few mills south of Virginia had power looms prior to 1840; and the organization of the industry spontaneously followed the line of development that had been characteristic of Rhode Island, as contrasted with Massachusetts. Several of the pioneer spinners of the Carolinas came from the former state.

About 1833, following the agitation against the

tariff, several companies for manufacturing cotton were organized from patriotic and political rather than from purely commercial motives. During this epoch the policy of the South towards the North reproduced nearly every measure adopted by the colonies towards England in the previous century. The sentiment in favor of home manufactures was strengthened by the impression that slave labor would give Southern factories a great advantage over those of the North, In fact black operatives, both owned and hired, were employed in the smaller mills; but they were soon supplanted by white operatives in the larger factories. From this period dates also the more general introduction of the power loom, and an effort to complete all the processes of manufacture within a single establishment.

However, apart from this political propaganda of manufactures, during the decade ending with 1840 the mill centres of the South had been acquiring greater importance. The tier of counties along the fall line of the rivers exported cotton in quantities from points where power and navigation joined. In some states, like North Carolina, where water powers fed shallow streams leading to a difficult coast, there was no navigation; but railways were beginning to substitute speedier, if not cheaper transportation. A few places, like Augusta and the neighboring country, had the double advantage of river and rail carriage in connection with water power. This conjunction of cotton, water wheel, and steamboat now began to influence the localization of Southern industry. The James, the Savannah, the Chattahoochee, the Alabama, and the Tennessee were the principal streams of the cotton states that afforded both power and transit to distant markets. And near the head of

navigation, upon those rivers, at Richmond and Petersburg in Virginia, Augusta and Columbus in Georgia, at Huntsville, Florence and the mill villages near Montgomery in Alabama, arose the first Southern factory centres to feed the larger commerce of the country.

While this slow and unconscious development was taking place, a systematic and persistent effort was made by a single pioneer of larger industry to awaken the South to the peculiar advantages it enjoyed for cotton manufacturing. This advocate was William Gregg, of South Carolina, the nephew of an early cotton spinner of Georgia, who had operated a small mill on the Little River in that state soon after 1810. Possibly from this source Gregg had acquired mechanical traditions, which he combined with the commercial instinct of a successful merchant. One of his earliest services was to secure the repeal of an ordinance prohibiting steam engines in the city of Charleston. When the failure of several of the more ambitious manufacturing projects of the thirties had confirmed the Southern prejudice against such enterprises, Gregg entered the field to show by argument and by practical example that these failures were not due, as was commonly assumed, to their location in the South, but rather to faults of management. So little accustomed were Southern gentlemen to corporate undertakings of this character, that one manufacturing company after organizing, employing an "overseer," and writing to New Jersey for machinery, never had a directors' meeting, even to receive the mill when completed, during the first two years and a half of operation. Under the impression that the whole product of a factory must be consumed in the vicinity, and that to specialize would overstock the market, these companies in-

stalled in their comparatively small establishments every variety of machinery for making fine and coarse, plain and colored goods. Consequently these factories were uneconomically arranged and operating expenses were high in proportion to output. The mills that did specialize, and succeed for a time, confined their attention to making fabric resembling the homespun in general use; but these were ultimately undersold by cheap and unsubstantial imitations from New England. Most companies neglected to provide sufficient operating capital. So late as 1856, Governor Wise, of Virginia, pointed out that the natural advantages of the Southern mills were nullified by the refusal of Southern banks to cash drafts for goods sold directly to Southern merchants. These banks would cash drafts for consignments on New York. Consequently local mill owners, without enough mercantile capital to carry long credits, were obliged to sell their goods to Northern commission men, thereby losing their advantage of position in the Southern market.

Gregg not only enlightened his fellow countrymen upon manufacturing methods, but by his writings did much to remove in his state the popular prejudice against industrial corporations and to correct a common impression that a manufacturer must be a mechanic and suffer the social disabilities of a manual worker. He thought it necessary to inform his readers that Lowell mill owners and superintendents wore gloves and lived in fine residences. He pointed out lucidly and from personal study the advantage the Massachusetts factories derived from their perfected commercial organization, skilled superintendents, and specialized production. But chief of all, he was not a mere theorist. In 1846 he founded at Graniteville, where

water power, water navigation, and railways met, the finest and probably the largest factory in the South, with nearly 9,000 spindles and 300 looms. His machinery, driven by a turbine wheel of 116 horse power, was devoted exclusively to making sheetings and the heavier cotton fabrics that have since been the staple textile product of the South. The mill village contained comfortable cottages for the operatives, a savings bank, a school, churches and other similar institutions, and within its limits the sale of liquor was prohibited. For children under twelve years of age school attendance was compulsory. Gregg's annual reports were always informing, both as to details of management and policy of administration. Nine years after his company was founded he was able to report, that in addition to improving the plant out of revenue, and in spite of the severe depression of 1850 and 1851, Graniteville factory had paid 7 per cent. on its capital from the date of incorporation, including the period of construction. In later years it paid more than double this amount. At the outbreak of the war Gregg seems to have welcomed the rupture with the North, on account of the protection from the competition of that section a separate confederacy would afford to Southern industries. But he does not appear to have been an admirer of slavery, and his principal interest was always enlisted with the poorer white class from which he drew his operatives.

There had been other cotton mills in the vicinity of Augusta before Gregg founded Graniteville. These were followed by the building of the Augusta power canal and the erection of larger factories, one of which equalled and the other exceeded in capacity its Graniteville neighbor. About 1847 there were thirty-two cotton factories in Georgia,

employing 3,000 operatives. In 1850 Columbus had three mills manufacturing cotton and woolen, with an aggregate capacity of more than 17,000 spindles.

Meantime primary manufactures were extending, though the production of lumber, flour, and iron did not keep pace with the expansion of the same industries in the North, where the rapid increase of population through immigration, the growth of secondary manufactures and the extension of canals and railways, created a large demand for these products. In the South such industries retained their neighborhood organization, and for that reason made less impression on contemporary records than did the centralized manufactures of other sections of the country. In 1810 Virginia had been the second largest producer of furnace iron in the Union, and Maryland the fourth largest producer, though these two states together made less than one-half as much as Pennsylvania. In 1850 Maryland, Kentucky, and Tennessee ranked third, fourth, and fifth among the states in pig iron, but Pennsylvania made nearly three times as much as all of them combined. The average annual output of the three furnaces reported in Alabama was under 200 tons, or less than the capacity of the Lynn furnace two centuries earlier. On the other hand these figures make no record of the little mountain bloomeries, whose iron bars still circulated as money among the neighboring farmers.

Except at points accessible to large rivers or railways the reproductive manufacture of iron developed slowly. There were car shops in some Southern cities, and the demand for steamboat and sugar machinery, and for agricultural implements, supported considerable works at Baltimore, Richmond, Wheeling, Louisville, St. Louis, Natchez, and New

Orleans. As early as 1820 little shops for making gins were scattered through the cotton states, and in a few instances these grew into larger establishments.

Both Kentucky and Virginia manufactured tobacco on an extensive scale, leading the Union in this industry; and besides small neighborhood distilleries everywhere in the grain districts of the South, there was in Maryland, Virginia, and Kentucky a large commercial manufacture of whiskey. The early flour mills of Baltimore, Petersburg, and Richmond continued to flourish. Between 1834 and 1850 the largest grain mills in the world were at Richmond, Va., the capacity of a single establishment approaching 1,000 barrels daily and enabling the city to ship nearly 30,000 barrels of flour a month to Brazil. Following the flour trade sprang up a commerce in heavy cotton sugar bagging, which was manufactured at Richmond and Petersburg and exported to the South American plantations. After the gold discoveries in Australia a new market for Virginia flour was opened there.

Cottonseed oil was manufactured on a small scale at New Orleans, where the first project was conceived as early as 1804, and at Natchez, Mobile, Petersburg, and possibly a few other places to which seed could be readily transported. Petersburg inventors perfected the first satisfactory machinery for hulling seeds, the other operations employing apparatus already used by linseed oil mills. North Carolina throughout this period made nearly all the turpentine and other naval stores produced in the United States. Before the close of the period in 1855, Mobile exported annually 18,000,000 feet of lumber, one-fifth of which went to foreign countries. Some of the first steam engines in the

West ran sawmills on the lower Mississippi. One establishment near Baton Rouge would be of creditable size at the present day. As early as 1834 a Maine company controlled 700,000 acres of timber in Georgia, and operated upon this tract four mills and eighteen saws. About the middle of the century the introduction in the North of yellow pine for shipbuilding increased the market for Southern lumber.

Though the South had materials for building vessels, except in Maryland this remained a minor industry. In 1810 Baltimore owned more merchant tonnage in proportion to its population than any other large American seaport with a single exception, and this shipping was largely the product of its own yards. During the war with England the Chesapeake builders made the fastest vessels that up to that time had sailed the seas. Here were invented or designed the clippers, so superior in sailing qualities to the fastest cruisers of Great Britain, that though Baltimore sent out 209 as privateers during the continuance of hostilities, not one of them was captured. The reputation thus acquired was maintained for forty years, and many of the clipper ships that during the culmination of the sail era gave the United States the best merchant marine in the world were launched from this port or from neighboring shipyards.

Maryland, however, is hardly typical industrially of the Southern states. Its factories date from the Revolution, and before 1812 there was one textile enterprise within its borders with an invested capital of $400,000. Baltimore county was at that time the seat of cotton manufactures, while in Cecil county several woolen mills had been erected. Soon after 1820 Baltimore began to weave and to print calicoes; and that city also became a leading centre

METHOD OF TRANSPORTING LOGS IN A GEORGIA PINE FOREST.

for the manufacture of cotton duck, for which its shipyards afforded a ready market. Nine years later it was exporting large quantities of domestic cottons to China. Virginia also had factories of some magnitude earlier than the states to the southward. One near Charlotteville was described by an English traveler, in the thirties, as comparable with the better mills of Lancashire and Yorkshire. The industrial development of the southern bank of the Ohio was assimilated to that of the North. Kentucky manufactured a large part of its own hemp, leading the Union in the production of cordage and bagging.

But even in the older parts of the South, and those sections nearest Northern industrial centres, manufactures continued relatively dispersed. In 1840 the average number of spindles in a cotton mill, allowing for obvious corrections in the statistics of North Carolina and Georgia, was approximately 3,300 in New Hampshire, 2,400 in Massachusetts, 2,000 in Maryland and Virginia, 1,200 in North Carolina, 1,100 in South Carolina, less than 1,000 in Georgia, and but 450 in Tennessee. Few woolen mills were reported south of Virginia. The average output of bloomeries and forges was over 500 tons in Maryland, 100 tons in Tennessee, and less than 25 tons in North Carolina. The ropewalks of Massachusetts had more than double the average capacity of those of Kentucky. Thirty-seven distilleries in Massachusetts manufactured nearly five times as much liquor as 2,802 distilleries in North Carolina, and four rum distilleries in Rhode Island nearly equalled the output of 1,454 whiskey distilleries in Virginia. Despite the large establishments at Richmond, the average size of Virginia flour mills was less than a third that of the mills of New York, then the first state of the Union in sugar

manufacture. But Louisiana produced about 60,000 tons of cane sugar, which amount nearly equaled four times that of the maple sugar reported for the whole country. The same state held second place in the manufacture of tallow candles. This position was lost when railways from the East entered the Mississippi valley and when the use of other illuminants increased.

The sixth decade of the century was a period of crisis for Southern industry. It began with the depression of 1850, culminated with the panic of 1857, and closed with ominous forebodings of war. It was a period of commercial conventions and agitation against the manufacturing states that reproduced for a second time some of the economic features of the colonial agitation against Great Britain before the Revolution. The South resented economic dependence, yet lacked the population, the experience, the capital, and the habits that foster manufactures and diversify industry. It was topheavy with cotton, and slave agriculture unbalanced its economic life. With vast areas of untouched forest, its people imported from New England laths and shingles, axe helves and hoe handles, and even the pikes used by their lumbermen. Yet had the war not intervened, manufactures would have revived and increased as settlement became denser, railways more numerous, and capital more abundant in proportion to resources, until these states by their own potency would have remoulded their industrial economy. Southern factory owners were the first to foresee the ultimate profit, in many fields of production, of instructed white labor. They were forming a new capitalist class, and their work people promised to form a new industrial class, with different ideals and interests from those of their planting neighbors.

The solidarity of political sentiment between these classes of the people that came with the war had not yet arisen. But it is useless to predict the promises of peace after the catastrophe of conflict. The orderly progress of Southern manufactures,* after a moment's stagnation due to the financial

Statistical Note:—There are no statistics of American manufactures prior to 1850 that are sufficiently accurate to justify their use in general or comparative tables. Before that date the census figures may be used for descriptive purposes only, and for such general deductions as have been given in the text of these chapters.

Even after 1850, and up to the present time, the totals of gross value of manufactures, and of such items as capital employed in manufactures, are only approximations, with a possible margin of error of several per cent. Consequently the following tables, which show the gross product of manufactures in the South in 1850 and 1860, and the product of some of the principal industries, grouped according to their relative importance, in the latter year, are to be accepted with much qualification. The gross value of manufactures includes, of course, the value of the raw materials consumed in their making, and does not represent an increase in wealth at all proportionate to the sum it represents. The net product of manufactures is about 47 per cent. of the gross product.

TOTAL PRODUCT OF SOUTHERN MANUFACTURES.

	1850	1860
Alabama	$ 4,528,876	$ 10,588,571
Arkansas	537,908	2,880,578
District of Columbia	2,690,258	5,412,102
Florida	668,335	2,447,969
Georgia	7,082,075	16,925,564
Kentucky	21,710,212	39,931,240
Louisiana	6,779,417	15,587,473
Maryland	33,043,892	41,735,157
Mississippi	2,912,068	6,590,687
Missouri	24,324,418	41,781,651
North Carolina	9,111,050	16,678,698
South Carolina	7,045,477	8,619,195
Tennessee	9,725,608	17,987,225
Texas	1,163,538	6,577,202
Virginia	29,602,507	50,652,124
Total	$160,930,639	$284,395,436

SOUTHERN MANUFACTURES THE GROSS PRODUCT OF WHICH, IN 1860, EXCEEDED $2,500,000.

	Value.
Flour and Meal	$63,900,000
Lumber (sawed)	24,800,000
Tobacco (manufactured)	19,200,000
Iron and Iron Manufactures	14,600,000
Cotton Manufactures	12,600,000
Machinery	10,400,000
Men's Clothing	8,200,000
Leather	8,100,000
Packing and Canning	8,100,000
Vehicles	7,700,000
Turpentine	7,400,000
Boots and Shoes	7,000,000
Woolen Manufactures (including carding)	4,800,000
Distilled Liquors	4,300,000
Sheet Metal Manufactures	4,000,000
Bagging and cordage	3,900,000
Blacksmithing	3,700,000
Harness and Saddlery	3,400,000
Agricultural Implements	3,300,000
Brick	2,800,000
Malt Liquors	2,700,000
Furniture	2,600,000

panic, was replaced, on the eve of a new crisis by the hectic stimulation of war. The people of the South were still essentially an agricultural nation; but at a few points they had made beginnings that predicted the industrial achievements of the next generation.

The Civil War.—The story of manufacturers in the South from 1860 to 1865 is a record of the efforts of a people, deprived in large part of the materials that satisfy their needs, to supply themselves without previous preparation with the equipment of war and the resources of peace. The blockade of the Southern coast was effective enough to prevent ordinary commerce before supplies for the future were accumulated. Subsequent traffic with the outside world did little more than serve immediate military necessities. To meet an emergency of this kind the South was in a measure prepared by the habits and condition of the people, who preserved their homespun industries and original self-dependence; but this section lacked, more than other parts of the country, factory equipment, skilled labor, and the means of developing larger industries.

The first effect of hostilities was to concentrate the productive energies of the nation upon the preparation of clothing, arms, ammunition, tents, vehicles, and all else that was needed to equip a soldier and conduct a campaign. In Memphis alone, then a city of less than 50,000 inhabitants, during 1861, about 1,500 men and women were employed in manufacturing clothing, knapsacks, percussion caps, and other military supplies. The machine shops of the cities along the Mississippi and Ohio, which prior to the war had made castings and heavy machinery for the South, were controlled by the Union armies too soon to be of much service to the Confederacy. But at Richmond, Atlanta, Selma, Macon, and wherever railway shops and other iron working establishments

had previously been in operation, these industries enlarged their scope and extended their activities. Fourteen forge and furnace stacks remained after the war to mark the site of the great arsenal at Selma, and the tallest chimney in the world towered over the powder works at Augusta. The Tredegar foundries and rolling mills, at Richmond, already among the oldest and largest in the country, were converted into manufactories of arms and cannon. Here and in Alabama the heaviest siege guns were cast, and armor was rolled for iron clads. Three new furnaces in North Carolina, six in Alabama, and as many furnaces and bloomeries in Texas, owed their existence to the demands of the Confederate government for iron and steel and some were operated by the authorities or with their direct assistance. However in the older iron-producing regions of the South, especially along the line of military operations in Virginia, Kentucky, and Tennessee, furnaces remained inactive or continued only with interruptions. Consequently, in spite of its stimulation by war markets, south of Maryland the total production of iron may have diminished rather than increased.

Cotton and woolen mills, outside of the sphere of army operations, were driven to their full capacity and in some instances they increased their machinery. As the operatives were mostly women and children, these establishments did not suffer a lack of labor to the same extent as the iron works, where, in spite of the use of slaves, there was sometimes default of hands. Towards the close of the war Union raiders destroyed both iron works and factories wherever they could be reached. They wasted Florence and Columbus, two promising textile towns, and the ruins of cotton mills marked the wake of Sherman's march northward through the Carolinas. We have no statistics showing the expansion and decline

of factory industries with the progress of the war; but when peace came the manufacturers of the South were as prostrate as was its political power, and all that was distinctive of the old order of society. Machinery was in ruins, operatives scattered, capital dissipated, and markets lost.

VICTOR S. CLARK,

Collaborator in Charge of Manufactures, Carnegie Institution of Washington.

BIBLIOGRAPHY.—The Census *Reports* for 1810, 1840, and thereafter, and *American State Papers, Finance, IV.* (Secretary of the Treasury, *Report,* 1854-1855, *Executive Documents,* 34 Cong., I. Sess., No. 10) contain valuable statistics. The statistics in J. D. B. DeBow's, *The Industrial Resources, etc., of the Southern and Western States* (4 vols., New Orleans, 1852-53) are not always accurate, but the work is otherwise informing, as is also *DeBow's Commercial Review of the South and West* (39 vols., New Orleans, 1846-1870), which with *Hunt's Merchants' Magazine and Commercial Review* (63 vols., 1839-1870), Hezekiah Niles', *Niles' Weekly Register* (76 vols., 1811-1849) and *Journal of the Proceedings of the Friends of Domestic Industry,* edited by Niles, as well as contemporary newspapers, contain references and some studied accounts of Southern manufactures. J. L. Bishop's *A History of American Manufactures from 1808 to 1860* (3d ed., 3 vols., 1868, though antiquated and incomplete as a systematic account contains much material in the second and third volumes. Other special works are: Ashworth, Henry: "Cotton—Its Cultivation, Manufacture, and Uses," in *Journal of the Society of Arts,* VI (1858), 256); Atkinson, Edward: "Report on the Cotton Manufacture of the United States" (in Boston Board of Trade *Reports,* 1863-1866); Batchelder, S.: *Idem* (in Boston Board of Trade *Reports,* 1862); Boles, A. S.: *Industrial History of the United States* (Norwich, 1889); Callender, G. S., editor: *Selections from The Economic History of the United States, 1765-1860* (Boston and New York, 1909); Freedley, E. T.: *A treatise on the Principal Trades and Manufactures of the United States* (Philadelphia, 1856); Kettell, T. P.: *Southern Wealth and Northern Profits, As Exhibited in Statistical Facts and Official Figures* (New York, 1860); Kohn, A.: *The Cotton Mills of South Carolina* (Columbia, 1907); Mills, Robert: *Statistics of South Carolina* (Charleston, 1826); North, S. N. D.: *A Century of Wool Manufacture* (Association of Wool Manufacturers, *Bulletin,* 1894); Olmsted, F. L.: *A Journey in the Seaboard Slave States* (New York, 1856, new ed., New York, 1904); *The Cotton Kingdom, A Traveller's Observations on Cotton and Slavery* (2 vols., New York, 1861); and *A Journey in the Back County in the Winter of 1853-54* (New York, 1860, new ed., 1907); Peto, Sir S. M.: *Resources and Prospects of America — Ascertained During a Visit to the State in the Autumn of 1865* (New York, 1866); Phillips, U. B., editor: *A Documentary History of American Industrial Society,* vols. I-II, *Plantation and Frontier* (Cleveland, 1909); Thompson, Holland: *From Cotton Field to Cotton Mill*

(New York, 1906); Swank, J. M.: *History of the Manufacture of Iron in All Ages* (2d ed., Philadelphia, 1892); *The Great Industries of the United States* (Historical Summaries by Horace Greeley, Albert Brisbane, and others, Hartford, 1872); *The Industry of the United States* (Compiled from the Official Reports of Messrs. Whitworth and Wallis (London and New York, 1854); White, G.: *Statistics of Georgia* (Savannah, 1849); White, George: *Memoir of Samuel Slater—Connected with a History of the Rise and Progress of the Cotton Manufacture in England and America* (Philadelphia, 1836); Wright, C. D.: *The Industrial Evolution of the United States* (New York, 1900).

EDITOR.

TRANSPORTATION AND COMMUNICATION.

WATERWAYS AND TRANSPORTATION BY WATER IN THE SOUTH.

FROM the Settlement of the South to 1803.—From the colonization of the South to the present day both its waterways and transportation by water may be viewed from the two-fold aspect* of coastwise and inland navigation. The coastwise routes include those formed by the Atlantic Ocean and the Gulf of Mexico which have long played an important rôle in the traffic relations between the South and other sections of the country and the world at large. Inland navigation, while narrower in scope than coastwise navigation, has always been closely related to it and involves a consideration of the tributaries to the Ocean and Gulf whose commerce is in considerable measure fed by such affluents. Prior to the introduction of railroads most of the Southern states, and especially those along the seaboard, had embarked upon various projects for the improvement of rivers and the construction of canals, but the routes thus opened have for the most part long since lost their importance or have been abandoned. The South is endowed with an incomparable system of natural waterways navigable the entire year by reason of the mild climate, and of great number and length, owing to the increasing

* For additional information see articles, "The Interstate Commerce of the South," and "Internal Improvements in the South."

width of the coastal plain as it goes Southward and to the large area of the gulf plain with its great rivers.

The abundant opportunities for transportation by water in the South was an important factor in its early colonization. The English, for example, who first peopled Maryland, Virginia, the Carolinas, and Georgia, settled in the tidewater regions or on the banks of neighboring streams, then often of larger dimensions than now, since soil wastes and the destruction of forests have operated to diminish the capacity and volume of stream-flow. Water routes everywhere furnished not only the safest but the best means of transportation for both local and long-distance traffic, landings being usual on all large plantations. Even after the middle of the Eighteenth century there were but few good roads and even these became impassable in bad weather. Such bridges as were in use often proved unsound, and the interior of the far South was infested with hostile Indians. Ordinarily the colonial proprietors, whether a commercial company or individuals, were the first merchants, vessels having been employed by them to introduce not only settlers, but everything required for their maintenance or for the cultivation of the soil. Settlement clung close to the waterways. For a number of years the colonial trade was unimportant, consisting largely of furs and peltry (which were obtained in great measure from the Indians), and lumber. With the further development of the coast regions, however, the great staples of the South—tobacco, lumber, naval stores, indigo, and rice—comprised the bulk of the commerce, domestic, intercolonial, and with the mother-country; while the wilderness commerce of the hunter and trapper became of increasingly less importance. Cotton was added to the crop list after the Revolu-

tionary War, and sugar with the purchase of Louisiana.

The incentive to the clearing of new lands for these crops was heightened by the invention of the cotton gin, and by the influx of domestic and foreign immigrants to the western frontier, who, like their forerunners on the coast, first made their homes, as a rule, on the banks of navigable streams. Here, however, the pioneers were at a great disadvantage, for navigation was slow, uncertain and expensive, while the upstream movement was almost impossible with the craft then in use, and Spain held control of the mouth of the Mississippi. Add to these drawbacks the remoteness and scarcity of markets, and it is not surprising that progress in all that makes for advanced civilization was long retarded. Not, indeed, until the advent of railroads was the hill-country of the South able to compete on equal terms with the tidewater section, whose wealth of natural waterways meant communication with the outside world and the control of all the strategic points in the field of commerce.

In Florida and the French gulf and river settlements, the development of communication ran a similar course. As early as 1712, for instance, a river trade was opened between Quebec, Canada, and Louisiana and Mobile Bay in skins, furs, grain, and flour, and exports were made to the West Indies and Europe.* On their return voyages, the vessels employed in this trade furnished the Illinois and Wabash regions with rice, indigo, tobacco, sugar, and European fabrics. French hunters visited the farthest reaches of the Mississippi and Missouri rivers, which, with their hundreds of tributaries, were the deep and solitary highways of trade. In 1763 the Peace of Paris provided that the

*DeBow, *The Industrial Resources, etc.*, II, 481

Mississippi should be free for both England and France. Based on this Great Britain twenty years later, in her peace with the United States, stipulated that this stream should be open alike to American citizens and the subjects of Great Britain, but not until 1795 did Spain grant the United States by treaty the free navigation of the Mississippi, with the right of deposit at New Orleans. This diplomatic event was of far-reaching benefit to the inhabitants of the Southwest who had long suffered from various annoying restrictions imposed by Spain and France with reference to the navigation of the Mississippi, which was practically the sole water route open to them for the movement of crops or getting supplies. Prior to the American Revolution the Ohio was not navigated to any considerable extent for commercial purposes, although there was some movement of war material by the French from one point to another on the river, and settlers bound for the Southwest floated downstream to their destination on this stream and its tributaries. With the opening of the lower Mississippi a notable improvement ensued and Pittsburg became a famous port for Southern commerce.

Vessels employed in colonial times were of small dimensions and distinctive type. In early days the largest coastwise craft rarely exceeded 100 tons burden, and in spite of the timber resources of the South, including the live oak and yellow pine, few were either built or owned there. The sloop was long a familiar vessel, but the schooner came in at about the time of the Revolution, displacing all others.* The growth of commerce on inland shallow streams demanded the use of special classes of vessels and for a number of years the Indian canoe was extensively employed. Finally, however, a va-

* Ringwalt, *Development of Transportation in the United States*, 8–10.

riety of minor craft came into use, including skiffs, boats, bateaux, flats, and barges, which for the most part were both built and owned in the South.

No statistics were kept of the commerce on Southern waterways during this period, but it is fair to assume that it was small as compared with the European trade and the trade between the colonies and Great Britain, whose navigation policy, after 1661, discouraged American shipping and controlled foreign and domestic, colonial, and even state commerce.

Meanwhile the coastwise trade suffered during the wars between England and her continental enemies, and for years was the prey of pirates who had started their careers usually as privateers under the English flag. During the Revolutionary War * the coastwise trade was almost destroyed. Its revival was long delayed through defects in the Articles of Confederation which allowed the several states to burden national commerce by local restrictions. Congress took up the subject after the adoption of the constitution and passed laws for the regulation of interstate commerce and the confining of the coastwise trade to American vessels. Already the Ordinance of 1787 had declared the tributaries of the Mississippi in the Northwest common highways and later acts of Congress made similar provisions in respect of navigable rivers in all national public lands. The purchase of Louisiana in 1803 gave the South the port of New Orleans and secured for our government control over the Mississippi.

From 1803 to 1865.—The impetus given the cause of internal improvements by the Louisiana purchase was due in no small measure to the manner in which it emphasized the inadequate facilities of transportation for a country whose already vast extent was still further increased by the acquisition

* Ringwalt, *Development of Transportation in the United States*, 8–10.

of that large territory. No part of the United States had anything approaching an adequate system of communication, and except on natural water courses there was little commerce of any description.* There had practically been no improvement in this respect over conditions that had existed upon the original occupation of the continent. This state of things not only prohibited the long-distance movement of traffic overland, but also operated to bring about the political and social isolation of communities whose well-being lay in rapid and cheap means of intercommunication, whereby the products of the farm could be sent to points of distribution in return for the comforts and necessities of life. Accordingly many men of the South, as well as those of other sections, urged that Congress should ameliorate these conditions by the construction of roads and canals for the double purpose of fostering a spirit of union and improving the economic welfare of the people. Not even the elaborate report made on this subject in 1808 by Albert Gallatin, or similar recommendations by John C. Calhoun about ten years later, received the favorable consideration of Congress, and the states themselves took the matter in hand, especially after the opening of the Erie canal in 1825 had demonstrated the possibilities of artificial waterways.

Canals and slack-watered rivers were not unknown to the South. As far back as the colonial period something had been done along these lines, notably in Virginia and South Carolina. Famous among these works were those in connection with the improvement of the Potomac River by a private company in whose management George Washington had taken an active part. Disputes between the states of Maryland and Virginia regarding the navi-

* Hadley, *Railroad Transportation*, 24.

gation of this stream, it will be remembered, went far towards demonstrating the weakness of the old Articles of Confederation. The improvement of the Potomac was designed to secure the trade of the nascent West and finally resulted in the Chesapeake and Ohio Canal. Equally ambitious was the James River and Kanawha Canal, but neither project was ever completed. Canal building in other Southern states received a check from the panic of 1837 and another check from the advent of the railroad. After about 1840 the number of canal and river improvement companies chartered by Southern states became less frequent, and by the outbreak of the war were extremely rare. But the application of steam, in spite of the appalling number of accidents long connected with its use, gave a fresh impetus to coastwise navigation as well as to that on natural water courses. How far the South depended on transportation by water was strikingly shown by the blockade of its ports during the war. When it lost control over its coastwise routes and the Mississippi River the Confederacy was strangled.

BIBLIOGRAPHY.—DeBow, J. D. B. (ed.): *The Industrial Resources, etc., of the Southern and Western States* (4 vols., New Orleans, 1852-53); Gallatin, Albert: "Report on Roads and Canals" (in *American State Papers,* Miscellaneous, Vol. I, Washington, 1834); Johnson, Emory R.: *Ocean and Inland Water Transportation* (New York, 1906); Johnson, Emory R.: "Inland Waterways: Their Relation to Transportation" (in *Publications of American Academy of Political and Social Science, Philadelphia,* 1893) Marvin, W. L.: *The American Merchant Marine* (New York, 1902); Ringwalt, J. L.: *Development of Transportation in the United States* (Philadelphia, 1888); Smith, J. R.: *The Organization of Ocean Commerce* (Philadelphia, 1905); Vetilart, H.: *La Navigation aux etats-unis* (Paris, 1892); *Report* on the Agencies of Transportation in the United States (Vol. IV, U. S. Census, Washington, 1880); *Report* on Transportation Business in the United States: Transportation by Water, Census of 1890 (Washington, 1890); *Report* of Windom Select Committee on Transportation Routes to the Seaboard (Washington, 1872).

BURR J. RAMAGE,
Bureau of Corporations, Washington, D. C.

ROADS IN THE SOUTHERN STATES.

From Colonization to 1832.—When the first settlers came to America many reasons induced them to remain close to the shores of the ocean and navigable streams, but none acted more powerfully than the facility of communication which these afforded. This fact, however, is one of the most important reasons for the backwardness which our ancestors displayed in the construction of roads. In the South moreover the growth of large, scattered plantations, as well as the racial and religious differences which existed there, tended to make the planters independent of each other. The South had shared in the burden of the French and Indian wars and the two wars with Great Britain, and not only were they prevented financially from constructing roads, but the damage to traffic was so great as almost to destroy the need for them. The road laws of England were used as patterns for the construction of roads and, with the inexperienced persons in charge of this work, supplied with inadequate forces of men, little improvement was made. Until the last part of the Seventeenth century the roads were little more than Indian trails and the first provision for wagon traffic was made only with the establishment of corduroy roads.

The first American road of which we have record was at Jamestown, Virginia, and traces of it are still to be seen. In Maryland, road building dates from 1625, but the first roads were mere paths from plantations to river landings. Road laws were first passed in Virginia in 1632. In 1657 control over roads was given to the county courts, but it was not until 1662 that roads were placed on a good footing by the appointment of surveyors to establish roads

forty feet wide. Systematic road building began in Maryland in 1666 with the passage of laws defining the powers of county commissioners, calling for the appointment of road overseers, and fixing road taxes. In 1682 South Carolina passed its first road law, constituting a board of commissioners and fixing a labor tax. Wagon traffic began with the establishment of a mail route between the Potomac and Philadelphia in 1695. In Alabama roads built by the French as early as 1702 continued, long after the French occupation, to serve as mail routes and stage lines. In 1704 the Maryland legislature passed a law which practically constituted the road law in that colony for the next fifty years. The interior of South Carolina remained a wilderness until 1730. Scarcely any roads were built in that state before that time, for communication was by way of streams. Georgia built its first road in 1735, about the time of the settlement of Augusta. In Maryland the Monocacy road, connecting Maryland with Philadelphia, was laid out in 1739 as one of the first wagon roads in America. The foundation of Frederick in 1745 gave an impetus to the construction of roads in Maryland, and highways to Annapolis and Baltimore were laid out. After 1750, when the upper country in South Carolina began to be settled, the legislature passed laws to establish labor taxes and to build roads to the capital, but these acts must have been fruitless for we read of them being passed again and again without apparent success. Virginia was the first state to build a road across the Appalachian Mountains, but this road was probably nothing more than a blazed trail. It was a portage path between the Potomac and Monongahela rivers, and was followed by George Washington in his expedition of 1754 and by General Braddock in 1755.

After the French and Indian War, the demand for

roads in northern and western Maryland grew with the increased settlements. Tradition speaks of a main road running north and south in West Virginia and extending through the region known as the Panhandle. In 1768 the Colonial Assembly authorized the opening of a road from the north branch of the Potomac to Fort Pitt, as nearly as possible along Braddock's route in 1755, and this road served later as the route for the National Road. The Wilderness Road in Virginia through the Cumberland Gap was established by Daniel Boone in 1775 and at once gained importance as a thoroughfare in the settlement of Kentucky and the Middle West. In 1785 a road ten feet wide was built in Tennessee from the lower end of Clinch Mountain to Nashville. A lottery was authorized in 1794 to raise money to cut a wagon road from Southwest Point to the Cumberland settlement. One of the first concerns of the territorial government of Mississippi was to open connection with the settled parts of the United States in the East and New Orleans on the South. The earliest and most famous road in Mississippi was the Natchez Trace built in 1801. In 1802 the Chickasaw and Choctaw Indians granted the United States the right to lay out roads through their territories and a road from the national boundary to Natchez was built. In Alabama the Federal government, in 1801, constructed a post road to Natchez on the Mississippi River and another to lower Alabama, but these roads were not completely opened until 1806. Between this date and 1823 about $78,500 was spent on these two roads. Public roads were ordered to be constructed in Tennessee by an act of that state's legislature passed in 1804 and good results were soon evident. A similar act was passed in 1807 by the legislature of Mississippi, and about this time two public roads were opened, running by different

routes from Natchez to New Orleans. In 1806 Congress passed a law to build a national road through West Virginia, from Cumberland to the Ohio, and work was begun shortly after. In Mississippi the road known as Gaines Trace, which was probably the route followed by DeSoto in 1540, was opened in 1816 by concessions from the Chickasaws. By an act of Congress, a thoroughfare known as Jackson's Military Road was built in the same year. After much discussion the Ohio terminus of the National Road was fixed at Wheeling in 1817, and in the next year the United States mail stage ran to that city from Washington over the National Road. A road was completed in 1817 through Ohio county to connect West Virginia and Ohio, but it was not until 1826 that there was a complete route by turnpike through the two states. In Texas up to 1832 practically nothing had been done with roads, while in Louisiana the settlements still clung to the water front and the need for roads was therefore not felt. Missouri, Arkansas and Oklahoma were still the haunt of the Indian and wild beast.

From 1832 to 1865.—The period from 1832 to 1865 witnessed the settlement of the great question of Federal aid in the internal improvement * of the individual states. To the new states and territories the United States government had rendered a lasting service in making the outside boundaries of each section of land available for a continuous road. But between these new states and the old colonies along the coast lay vast tracts of land crossed by scarcely more than trails. It became a matter of vital importance to the Union to connect these states by better means of communication than existed, but, since the expense was too great for the new states, Congress was called upon to assist, on the theory that the nation

*For additional information see article "Internal Improvements in the South."

had the greatest interest at stake in the matter. From time to time Congress had constructed mail routes and military roads, but with the proposals to establish the Maysville Road in Ohio, the national road from Buffalo to New Orleans by way of Washington, and the Cumberland Road, the question became an acute political issue. In his annual message of Dec. 2, 1817, President Monroe had declared that the constitution did not permit the Federal government to expend the public money on local improvements and he recommended that the constitution be amended on this point. Passing over the Maysville Road and the Buffalo-New Orleans Road, which were not built by the Federal government, it is necessary to consider the Cumberland Road, which was the only road actually constructed as an internal improvement by the government. Monroe had believed that Congress could appropriate money for internal improvement, provided it did not itself take "actual jurisdiction of the enterprise." The whole question received its most ardent support from John Quincy Adams and Henry Clay. The construction of the Cumberland Road cannot be taken as a precedent for government aid in this line of improvements, for its purpose was different from those of other roads which the government was called upon to build. It was to bind the East with the West and aid in the national growth, not to the advantage of those who contributed most to it, but to the advantage of the whole nation. It served its mission; "it carried thousands of population and millions of wealth into the West, and more than any other material structure in the land served to harmonize and strengthen, if not to save, the Union." It was a portage road and was built in pursuance of an agreement made on the occasion of the admission of the state of Ohio in 1802. Various sums were appropriated starting

from 1809 until the War of 1812, when work was suspended for a time. As early as 1818 a serious effort to rid the nation of this burden made itself felt. By this time the road was completed to the Ohio River, but the cost of maintaining it was a matter of serious moment to the members of Congress. The question of the establishment of toll-gates by the Federal government was brought up and was made by the opponents of the measure to include the question of state rights and national sovereignty. This point was evaded as far as possible for a time, and now the suggestion began to be made that the various states through which the road ran should be required to keep it in repair. This measure was vetoed by President Monroe on the ground that Congress lacked the power necessary to carry it out. In his annual message of Dec. 2, 1822, President Monroe suggested an amendment to the constitution to permit the National government to collect tolls. Daniel Webster was an ardent supporter of the proposal to construct the Cumberland Road with national funds and could find no constitutional obstacle in its way. From 1826 the Cumberland Road was included in the annual military appropriation bill. The attitude of the most powerful states of the South towards the Cumberland Road was consistently adverse, on the ground of unconstitutionality. At last, however, between 1830 and 1835, the road was gradually put in repair and then ceded to the various states through which it passed to be cared for by them thereafter. It had cost the government about $7,500,000. This great enterprise of the government now gradually lost importance, until at present it is broken up into numerous county roads maintained in a number of different ways.

Military and post roads were constantly being opened by Congress during this period. In 1836 an

act of the legislature of Tennessee provided for the formation of corporations or companies for the prosecution of individual turnpikes. The state was to subscribe to one-third of the stock when the other two-thirds had been subscribed. In 1839 the state was required to subscribe to one-half, with the right of appointing one-third of the directors, and the formation of the Bank of Tennessee lent aid to the project, but in 1840 these laws were repealed and the state was forbidden to subscribe to the stock of any internal improvement company. The constitution of 1870 forever put an end to the possibility of the state taking part in further internal improvements.

About the middle of the Nineteenth century there arose a furore for the construction of plank roads. Scarcely a trace of this type of roads is now to be found because of the perishable nature of the material used. These roads were intended to connect with the railroads and a number of laws authorizing the formation of plank-road companies were passed. The first roads of this class were built in 1835, but the movement did not assume large proportions until after 1850. They were introduced in North Carolina, Georgia, and other Southern states some time before 1850. Enthusiasts claimed for them that they had superseded macadam roads and were even, in some cases, maintaining successful competition with railroads. In Kentucky the legislature fixed such high rates of toll that this type of roads never received any very great attention. During the period from 1847 to 1853 many plank roads were built in Alabama and from 1849 to 1850 twenty-four companies for building these roads were incorporated in that state.

Among the first important turnpikes to be established in the South before 1800 was the Alexandria turnpike in Virginia. By the beginning of the Nine-

teenth century, in Maryland, several companies had undertaken the construction of roads. Among these roads, the Fredericksburg road to Boonsborough was one of the most important. The greatest turnpike constructed in the Southern states was the National Road. In Alabama many companies were incorporated for building turnpike roads, and tollgates were authorized at intervals of five miles. The tolls were never to exceed 25 per cent. annually on the capital invested, nor should they fall below 12½ per cent. In Tennessee, upon the founding of the Bank of Tennessee, the state was authorized to subscribe to one-half of the stock in turnpike companies, and the limitation of its subscription was fixed at four million dollars. Under this act there were issued to various turnpike companies, bonds to the amount of nearly one and one-half million dollars. South of the Potomac, however, turnpike and plank roads were always few in number as compared with the more thickly populated sections in the Northern states.

Road laws were passed in Maryland in 1856 and formed a part of the code of 1860, which did service for the next two decades. The improvement of roads in the South came to an abrupt halt at the beginning of the war. The rough and unusual traffic of the four stormy years between 1861 and 1865 all but destroyed those roads which were located near the scene of the heaviest campaigns.

Bibliography.—Bruce, P. A.: *Economic History of Virginia in the Seventeenth Century* (New York, 1896); *Georgia* (Vol. II, edited by ex-Gov. A. D. Candler and Gen. C. A. Evans, Atlanta, 1906); Gallatin, Albert: *Report of the Secretary of the Treasury on the Subject of Public Roads and Canals* (Washington, April 12, 1808); Hammond, Harry (ed.): *South Carolina: Resources and Population, Institutions and Industries* (Charleston, S. C., 1883); Hulbert, A. B.: *The Historic Highways of America* (Cleveland, O., 1902-05); Martin, W. E.: *Early History of Internal Improvements in Alabama* (J. H. Univ. Studies, XX, iv, Baltimore, 1902); Phelan, James: *History of Tennessee* (Boston, 1889); Ringwalt, J. L.: *Development of*

Transportation Systems in the United States (Philadelphia, 1888); Rowland, Dunbar (ed.): *Mississippi* (Atlanta, 1907); Shaler, N. S.: *American Highways* (New York, 1896); *Georgia, Historical and Industrial* (Department of Agriculture of Georgia, Atlanta, 1901); *Maryland Geological Survey* (Vol. III, Baltimore, 1899); Richardson, Lucas (ed.): *Sketch of North Carolina* (Published in connection with Charleston, South Carolina, Exposition, Charleston, S. C., 1902).

LOGAN W. PAGE,

Director Office of Public Roads, U. S. Department of Agriculture.

INTERNAL IMPROVEMENTS IN THE SOUTH.*

From Colonial Settlement to 1817.—During the colonial period the Southern colonies did not seriously feel the need of transportation facilities superior to those furnished by nature. The products of the fields and the forests grew along the banks or shores of natural waterways which furnished means of intercommunication, for the movement of products to market, and for the return of supplies. In a few of the colonies, notably in Virginia, some public aid was extended by the legislatures to clear the rivers of obstructions that impeded navigation, and a few private companies were incorporated by special acts to improve a number of streams.

Following the close of the Revolutionary War, the growth of population and the spread of productive areas required the improvement of transportation facilities. In the older settlements, local authorities made attempts to provide roads for local purposes, but the building of turnpike roads for through traffic, which began in Pennsylvania in 1790, received less attention in the South, the activity of the legislatures being confined principally to chartering pri-

*For additional information see articles upon the "State Finances" of the various states, and "Roads in the Southern States."

vate corporations for the improvement of rivers and for the construction of canals. Maryland chartered a company to cut a canal between Chesapeake Bay and the Delaware River; Virginia and North Carolina authorized the incorporation of a company to dig a canal through the Dismal Swamp, furnishing navigable communication between Chesapeake Bay and Albemarle Sound; and in South Carolina, the Santee Canal was built to connect the Santee River and Cooper's Creek.

Although most of the projects were undertaken by private corporations, the great cost of the completed improvements was quite beyond the means of individuals, even joined collectively. With a new country investments in trade, yielding direct returns for the small supply of domestic capital, were more attractive than investments that required years for the realization of uncertain profits. To provide funds the companies were authorized to conduct lotteries; frequently the state subscribed to the capital stock of the corporations; and occasionally direct appropriations were made.

Until after the War of 1812, and even later, funds for improvements within the states were available in sufficient amounts only through the appropriations by the state legislatures or through the investments of foreign capitalists. The power of Congress to aid in such undertakings within the states was generally denied, and it was not until later years that economic necessity forced a more liberal interpretation of the constitution.

No constitutional objection was found to appropriations for improvements within the territories; and in 1806 small appropriation were made for the construction of a road west from Cumberland, Maryland; for one from Nashville to Natchez; and for another from the frontier of Georgia to New Orleans.

In 1808, the famous report of Secretary Gallatin advocated the adoption of a comprehensive plan for the construction of roads and canals by the National government. In the Southern states the plan contemplated a canal between the Delaware and the Chesapeake, and another between Chesapeake Bay and Albemarle Sound, as a part of an inside route along the coast. A great turnpike road was to be built passing through all the principal seaports from Maine to Georgia; while to afford communication with the West it was proposed that the Potomac, the James, and either the Santee or Savannah rivers, be improved and that artificial roads be built from the head of navigation on these rivers to connect with navigation on the Monongahela, the Kanawha and the Tennessee rivers respectively. Gallatin pointed out that owing to the great extent of territory some of the improvements proposed would remain relatively unproductive until other parts were completed, requiring so great an investment and so long a period of time for the realization of profits as to deter the investment of private capital. Owing to ensuing trade conditions, to the War of 1812, and to the influence of the constitutional objection, Congress took no action to carry out Gallatin's plans.

From 1817 to 1865.—The real era of internal improvement in the South began in 1817 when the state of Virginia created a fund for that purpose. The fund was to consist of the bonuses received from the incorporation of new banks and of shares held by the state in various turnpike, canal, and river-improvement companies, and in the Bank of Virginia. The handling of this fund was vested in a board of public works. In 1819, similar steps were taken in North Carolina, and subsequently in other Southern states. In these states, aid took the form chiefly of subscriptions to the stock of private companies. In

South Carolina, in the decade 1816 to 1825, the state expended $1,500,000 on public works. In Tennessee and Kentucky, surveys were made of important rivers and some improvement attempted. Among the most important acts in Kentucky was one providing that forty thousand of the state's dividends from the Bank of Kentucky should be appropriated annually for improving certain rivers, and another taking shares of stock in a company incorporated to build a canal around the falls of the Ohio River. In other Southern states, little was accomplished.

During the early part of this period considerable amounts of capital were attracted from England, where the rate of interest was falling. Canal investments there had proved profitable and investments in America seemed promising. Through the extension of commercial credit to American merchants by English houses, considerable amounts of domestic capital, liberated from trade, also became available for investment. But to secure this capital it was necessary for repayment to be guaranteed by the state governments. In some cases the bonds of corporations were guaranteed by the state, a lien upon the company's property being retained. In other cases, bonds of the state were issued and the proceeds invested in the stock of private corporations. These methods of raising funds were resorted to in a constantly increasing degree after 1830, when railroads were clamoring for aid. The advent of the railroad diverted attention from canal building and river improvements, and it was thought to be inadvisable to invest in the latter class of projects when railroads were being extended rapidly, taking much of the traffic that had formerly moved by water.

All of the Southern states aided railroad building

to some extent, with varying degrees of success. Maryland was among the first, the legislature in 1825 authorizing a subscription for five thousand shares of stock of the Baltimore and Ohio Railroad Company by the state and thirty thousand shares by the city of Baltimore. In other states subscriptions were made to the capital stock of railroad corporations, loans were advanced, and the bonds of such companies were liberally guaranteed by the credit of the state. In some instances, state aid took the form of exemption from taxation, and in a few states, the construction of railroads was undertaken by the states themselves. The liabilities incurred by the states in aiding the various projects of railroad and waterway improvements and for state banking enterprises marked the beginning of debts that were repudiated in a number of states during the financial stringency that followed the panic of 1837. Comparatively little was done by the states during the forties. From this time dates the beginning of great private corporations. Beginning in 1850 and continuing until the War of Secession, the policy of railroad building, and of state aid thereto, was given new life, although little was done in the less thickly settled portions of the South. During the ten years preceding the war, state aid to waterway improvements was unimportant compared with the aid extended to railroads, and, in some states, to the construction of plank roads to serve as feeders to the railroads.

By 1861, popular enthusiasm for state aid to projects of internal improvement had sunk to a low ebb. During the following years of warfare, works of public improvement were at a standstill in the South. It was a period of destruction, but it was not until 1864 that the Assembly in Virginia passed an act to suspend the payment of any subscription on the part

of the state to any internal improvement company authorized by acts passed before the beginning of the war.

None of the state-aided enterprises were conspicuously successful in the returns made to the state treasuries, but the benefits should not be measured by this standard alone. Even more important was the impetus given to trade, with the resulting increase in taxable values, and the improved economic condition of the sections reached by the several transportation agencies aided. Indeed it is undoubtedly true that the indirect benefits far outweighed the direct financial returns. Without state aid, the development of transportation facilities would have been delayed and the growth of the states retarded.

For more than a quarter of a century preceding the war the position of the strict constructionists of the constitution was being gradually undermined. The question of Federal aid to internal improvements became active in politics, and many of the strict constructionists acknowledged the desirability of an amendment to the constitution giving Congress the power to make such appropriations. Between 1825 and 1830, Congress had authorized subscriptions to the shares of four canal companies in the South—the Chesapeake and Delaware, the Louisville and Portland, the Dismal Swamp, and the Chesapeake and Ohio. But of the 142 different works for which estimates and surveys had been submitted only 38 were in the South. From Jackson's time, detached appropriations for river and harbor improvements were included in the general appropriation bills, which the President was compelled to sign or veto altogether.

Under the act of Sept. 4, 1841, Congress granted to certain states 500,000 acres of public land each for internal improvements, including the land granted

at the time of admission. Under this act Alabama received over 97,000 acres, and Missouri, Mississippi, Louisiana, Arkansas, and Florida, 500,000 acres each. These grants were variously applied. In 1843, the assent of Congress was given to the application of the 2 per cent. fund of the state of Mississippi to aid the construction of a railroad extending east from Jackson.

In March 1849, Congress granted a right of way through public lands in Florida to the Atlantic and Gulf Railroad Company, and also to the Mobile and Ohio Railroad Company for its road to be constructed from Mobile to the Ohio or the Mississippi; but the grant of specified amounts to states for the encouragement of railroads did not begin until 1850. An act passed September 20 of that year made a grant of lands to the states of Illinois, Mississippi, and Alabama to aid the construction of a railroad from Chicago to Mobile. The same act granted a right of way for the road.

Eight days later (Sept. 28, 1850) was passed an act granting to the state of Arkansas and other states, all unsold swamp and overflowed lands within each state, unfit for cultivation. The states were empowered to construct the necessary levees and drains to reclaim the lands. The levees built aided navigation by keeping the rivers within their banks and by furnishing traffic in crops raised upon the reclaimed areas.

Between 1830 and 1860 Congress appropriated over $5,000,000 for river improvement and more than $350,000 for canals, of which a large, though not equal, proportion was devoted to works in the Southern states.

Bibliography.—Callender, Guy S.: "The Early Transportation and Banking Enterprises of the States in Relation to the Growth of Corporations" (*Quarterly Journal of Economics*, Vol. XVII, No. II, November, 1902); Martin, W. E.: *Early History of Internal Im-*

provements in Alabama (*Johns Hopkins Univ. Studies,* XX, iv, Baltimore, 1902); Weaver, C. C.: *Internal Improvements in North Carolina Previous to 1860* (*Johns Hopkins Univ. Studies,* XXI, iii-iv, Baltimore, 1903); *United States Statutes at Large;* Session Laws of the several states; *Annual Reports* of Chief of Engineers, U. S. Army, and Analytical and Topical Index of *idem; Preliminary Report* of Inland Waterways Commission (Washington, 1908); Congressional appropriations for various waterway projects are compiled in United States Census *Report* on Transportation by Water in 1906.

H. C. McCarty,
Bureau of Corporations, Washington, D. C.

RAILROADS IN THE SOUTH.

In the two decades following the War of 1812 the opening of the Southwest for prosperous settlement by planters caused a radical shifting of the territorial balance in the South as a whole, and forced the eastern half of the South into drastic readjustment in its economic régime. The lands of the West were fresher and very much more fertile. The soil and climate of its several zones were splendidly suited to tobacco and cotton; its districts of greatest fertility were all penetrated by great rivers giving easy though slow carriage of crops to the sea; and some of these same rivers brought cheap foodstuffs in abundance from the cereal states on the north. Farmers, planters, and slaves moved west by hundreds of thousands in these decades, until it became an acute problem in all the older seaboard states, from Maryland to Georgia, how to check the outward flow, and save their region from severe and permanent depression. Tobacco and cotton prices ranged so low from 1818 to the early thirties that profits were almost unknown in the Piedmont industry, and commerce was very slack in the adjacent seaports.

Casting about for reforms, the husbandmen instituted a great improvement in tillage by the introduction of horizontal plowing and terracing on the hillsides, and some attempt was made at restoring the fertility of worn lands by marling or other fertilizing. But the most crucial economic problem facing planters, merchants, and indeed the whole community, was that of improving and cheapening transportation. The existing equipment of dirt roads and narrow, rapid, shallow, and obstructed rivers made both the marketing of crops and the securing of supplies heavily expensive and distressingly burdensome in the competition with the more fortunate Southwest. Accordingly, the people of the Southeast were on the alert for some invention which would solve the transportation problem and bring them economic salvation. Canals and turnpikes were experimented with, but because of cost and engineering difficulties found wanting. In 1822 a patent railway was brought to Charleston for exhibition, but proved unavailable, probably from the lack of a motive power suitable to it. Finally, about 1827, came the news that railroads with steam locomotives were proving successful in England. Promptly in 1827 and 1828, respectively, companies were chartered to build railroads from Baltimore and Charleston into the interior. The Baltimore and Ohio Company was the first in America to break ground. The South Carolina Company was more prompt in its constructive work, however, and by 1833 had finished its road, which, with its 136 miles, was then the longest railroad in the world. After delays in the progress of the Baltimore and Ohio, thirteen miles of its track was opened for traffic in 1830, and 135 miles in 1835. Traffic, both passenger and freight, was steadily handled on both of these roads by steam locomo-

tives from the time that their first sections of track were opened. No sooner were these successes demonstrated than multitudinous projects were launched and a thousand localities began to clamor for railroad connections. A legislative charter was required for each company launched, and only strong interests could carry bills through the assemblies. Furthermore, the difficulty of enlisting the great amounts of capital required prevented many companies from fulfilling their charter requirements and from beginning actual construction. The scarcity of private capital caused many corporations and promoters to appeal for state aid. This carried many of the roads into politics and caused some of them, the North Carolina Central, for instance, to be located (for political expediency) in districts or directions of poorer traffic-strategy than they should have been.

The railroads launched and constructed in the Southeast in the thirties and forties fall mainly into two groups: (1) Lines parallel to the seacoast, to facilitate the transit of mails, passengers, and freight between the South and the North. Thus between 1830 and 1836 there were chartered four companies which by 1840 had completed a series of connecting railroads reaching from Alexandria on the Potomac to Wilmington, North Carolina, and connecting at Wilmington with a line of steam packets running to Charleston and Savannah. (2) More important for freight traffic and more vital in their economic service were a number of roads built in directions perpendicular to the coast. Among these, in addition to the Baltimore and Ohio and the South Carolina companies, were the Louisa Railroad, later known as the Virginia Central, running west from Richmond; the Southside Railroad, running west from Petersburg; several petty roads in North Carolina, superseded in 1849 by the state-controlled

North Carolina Central Railroad; in South Carolina various branches to the original stem from Charleston, radiating to Camden, Columbia, Spartanburg, Greenville, and Anderson; and in Georgia a group of roads which in the fifties became the keystone of the Southern railroad system. In the one year, 1833, were chartered the Georgia, the Central of Georgia, and the Monroe (soon reorganized as the Macon and Western) companies, which with great zeal built their roads respectively from Augusta westward, from Savannah north of west to Macon, and from Macon westward of north. In 1836 the Georgia legislature resolved to build with public moneys the Western and Atlantic Railroad from a point now known as Atlanta to Ross' Landing on the Tennessee River, now known as Chattanooga. After a distressing interruption during the hard times of the early forties, this road was pushed to completion in 1851. Meanwhile, its launching had converged the two lines already in progress from Augusta and Savannah to a common terminus in order that they might share in the grain trade which the Western and Atlantic was to bring from Tennessee and the Northwest. The Nashville and Chattanooga Road, chartered in 1845 and opened in 1854, completed this connection with the river and rail system of the Northwest, and promptly made Atlanta the "gate city," the distributing point for Western grain and meats for the whole cotton belt. The connection of the Western and Atlantic with East Tennessee was made, after the failure of the Hiwassee Company, by the East Tennessee and Georgia Company, chartered in 1848 and completing its road in 1856.

Meanwhile the Southwestern Company of Georgia, chartered in 1845, was building a branchwork of roads from Macon westward and southwestward to Columbus, Americus, Albany, and other towns; and

the allied Atlanta and West Point, and Montgomery and West Point, companies were building from Atlanta to Montgomery. In northern Alabama an early company chartered in 1830, built a railroad along the Muscle Shoals to serve as a portage, forty-four miles long, between the upper and lower reaches of the Tennessee River. In 1846, this company was merged into the Memphis and Charleston Company, which never opened its track farther than from Memphis to Stevenson on the Nashville and Chattanooga line. In the further Southwest, a New Orleans project of the thirties for a railroad to Nashville prospered for several years but was utterly wrecked by the panic of 1839. Several less pretentious undertakings, intended to connect inland towns like Clinton, Jackson, and Brandon, Mississippi, with the river highway near by, were carried through in the thirties and early forties. The Southwest was not spurred into the efforts necessary to success in more ambitious enterprises until the late forties and early fifties, when the tapping of the Tennessee region by the Georgia roads caused a drain of traffic southeastward which had formerly flowed through Memphis, New Orleans, and Mobile. Then at length Southwestern activity began by which these cities and their tributary regions were to make giant strides. In 1850 the total extent of railroads in the South was about 2,400 miles, of which all but two or three hundred miles, lay eastward of Alabama and the Appalachian Mountains. In 1860 the mileage had increased to above 11,000, of which nearly one-half lay in the transmontane and southwestern regions. The conspicuous roads of the period in the region between the Ohio river and the Gulf of Mexico were the Mobile and Ohio, chartered in 1848 and opened from Mobile to Cairo in 1859; the New Orleans, Jackson and Northern, chartered in

1850 and opened from New Orleans to Canton in 1859; the Mississippi Central, or Memphis and New Orleans, continuing the line of the New Orleans, Jackson and Northern to Memphis; the Memphis and Chicago, running northeastward from Memphis; the Louisville and Nashville; the Tennessee and Alabama, building southward from Nashville; the Alabama and Mississippi, or Southern Railroad as it was called for some years, filling in the gaps between Montgomery and Vicksburg, and the Montgomery and Mobile. In the middle region and among the mountains, the East Tennessee and Virginia, was opened in 1855, connecting with the East Tennessee and Georgia at one end and the Southside Railroad at the other, and forming a long intramontane line parallel with the coast. In the eastern half of the South in the fifties the principal achievements were the extension of the Baltimore and Ohio, the Virginia Central, the Southside, and the North Carolina Central; the building of the Orange and Alexandria; the beginning of the Richmond and Danville; the building of lines from Wilmington, North Carolina, through Florence to Charleston, from Charleston to Savannah, from Savannah to southwest Georgia, and from Jacksonville to Tallahassee and St. Marks. In addition, on the map of 1860 several dozen minor roads appear, scattered through many districts and serving as feeders either to main lines of railway or to the rivers. Beyond the Mississippi there was a continuous railroad across the state of Missouri and other roads radiating from St. Louis; and there were several short lines, the beginnings of larger projects, in Texas and Louisiana. In Arkansas the people heard no locomotive whistles before the war.

As to the cost and capitalization of the railroads,

no authentic general tabulations appear to have been made for the ante-bellum South, and complete data for tabulation are not now extant. In general, few roads had large bonded debts except where state aid had been granted. For example, the Georgia Railroad, with a length of 213 miles, had a capital stock in 1847 of $2,289,200 and no bonded debt; while in 1860, with 231 miles of road, its capital stock was $4,156,000 and its bonded debt $312,500, to offset which it owned stocks and bonds of other roads to the amount of $1,003,659. The Southwestern Railroad of Georgia in 1860, with 206 miles of road, had a capital stock of $3,318,279 and a bonded debt of $396,500; and its neighbor, the Macon and Western Railroad, running 103 miles from Macon to Atlanta, had in 1860 a capital stock of $1,500,000 and no bonded debt. The original cost of constructing the Georgia and Central of Georgia roads, completed in the middle forties, averaged about $13,000 per mile, and at least half that amount per mile additional was expended before 1860 in relaying with heavier rail and in other betterments. The Western and Atlantic Railroad, 137 miles long, was built by the state of Georgia through rough territory at an initial cost, ending in 1851, of $24,000 per mile, with an added cost for betterments in the next decade of $16,000 per mile.

The affairs of state-aided roads are illustrated by a committee report to the Tennessee legislature made at the end of 1859, describing the status of the railroads lying in whole or in part within that state. There were ten roads reported as completed, with a total length of 1,180 miles, of which 748 miles lay in Tennessee and 100 miles remained yet to be built. The aggregate cost of constructing these roads is given at $27,078,545, and the cost of equipment at $2,149,350; their capital stock aggregated $11,390,096, all paid in, their bonded debt was $11,050,449,

including $8,979,000 of state aid from Tennessee, and doubtless additional amounts from neighboring states, and their floating debt was $2,033,605. Seven other roads were reported as in course of construction, with 463 miles built out of a total intended of 949 miles; their cost of construction to the date of the report as $14,649,455, and of equipment $1,011,014, their capital stock aggregated $8,625,425, of which $5,410,653 had been paid in, their funded debt $6,684,786, including $2,961,000 of state aid from Tennessee, and their floating debt was $985,908. On the whole, the cost of construction upon Southern railroads to 1850 averaged probably about $17,000 per mile, and to 1860 about $25,000 per mile. This was little more than half the average cost of Northern roads in the periods. The capitalization of most of the Southern companies approximated rather closely the cost of their roads and equipment. In the case of a few powerful companies only had the corporations begun to increase their stocks or bonds for the purpose of acquiring the securities of connecting roads; and practically none had resorted to stock manipulation nor in any considerable degree to stock-watering. These practices were more common in the North, but none of the important Southern roads had fallen under Wall Street control in the ante-bellum period.

By 1860 the South was equipped with a good skeleton railroad system, reaching all vital parts of the territory east of the Mississippi River, and handling with fair efficiency the relatively light traffic of the sparsely settled country. The year 1861, replacing peace with tremendous war, radically transformed the railroad situation. The blockade by land and sea promptly stopped the outward and inward flow of commerce, and showed that the several parts of the South customarily did little business with one

another. On many roads freight traffic in the first year of the war fell to a tithe of its former volume. Beginning in 1862, however, the movement and counter-movement of troops to and from the threatened points on all the frontiers of the South, and the movement of non-combatant refugees from the danger zones to the interior began to tax the passenger-carrying capacity of the roads. By 1863 the depletion of supplies in the battle zones caused the roads leading from the centre to the periphery of the South to become more busy in handling corn than they had formerly been in handling cotton. As Confederate money depreciated, freight and passenger rates were raised, but not as rapidly as prices of things in general. Meanwhile rails and rolling-stock were becoming dilapidated and could be repaired or replaced only at great expense, if at all. The Confederate government, as a military necessity, took control of the rolling-mills and machine shops and impressed most of the material in reach, using the cast iron for ordnance instead of car wheels, and the wrought iron for wagon and cannon tires instead of for rails. The government made money payment for the supplies and services it received, but strive as it might, it could not avoid the crippling of the roads. Trains, bridges, tracks, and depots were occasionally destroyed by the enemy or even by retreating Confederate armies, and rolling-stock was sometimes marooned by the destruction of the track at either end of a line. The books of many companies showed large nominal net earnings from 1862 to 1864, and dividends of handsome nominal percentage were in some cases distributed; but there was no pretense of prosperity. Current expenses were light only because supplies could not be bought nor repairs be made. Huge sums would have been written off for depreciation of roads and equipment, and earn-

ings carried to reserve to replace the wear and tear when peace should return, except that Confederate money was depreciating with such velocity that no one could afford to keep it, and the country offered no safe investments of any sort. At the end of the war the Southern railroads were in a condition of almost complete physical wreck; but the comparative freedom of the companies from bonded debts enabled them to rehabilitate their properties in the following years with considerable speed. Meanwhile during the war, whereas the rivers in the South proved to be lines of weakness and disaster in the Confederate defence, the railroads nearly all proved to be lines of strength, of the utmost service in supplying men, munitions, and sustenance to the threatened districts on all the borders.

Bibliography.—DeBow, J. D. B. (ed.): *The Industrial Resources, etc., of the Southern and Western States* (4 vols., New Orleans, 1852-53); Ingle, Edward: *Southern Sidelights* (New York, 1896); Martin, W. E.: *Early History of Internal Improvements in Alabama* (in *Johns Hopkins University Studies,* series XX, iv, Baltimore, 1902); Phillips, Ulrich B.: *A History of Transportation in the Eastern Cotton Belt to 1860* (New York, 1908); Reizenstein, M.: *Economic History of the Baltimore and Ohio Railroad* (in *Johns Hopkins Univ. Studies,* XV, vii-viii, Baltimore, 1897); Weaver, C. C.: *Internal Improvements in North Carolina Previous to 1860* (in *Johns Hopkins Univ. Studies,* XXI, iii-iv, Baltimore, 1903).

Ulrich B. Phillips,
Professor of History, Tulane University.

THE MERCHANT MARINE OF THE SOUTH.

In no important line of commercial endeavor did the Southern states manifest so little interest during the period prior to 1865 as in the creation and development of a merchant marine. Commerce and navigation are not necessarily united in the same states, and navigation may flourish independently of the production of the commodities entering com-

merce. Thus the enormous tonnage owned by the people in New England during this period would have proved most unprofitable, had it not found employment in foreign countries, and in the foreign and coastwise trade of the Southern states. The South, on the other hand, taking advantage of its fertile lands and favorable climate, bent all its energies on the production of such leading articles as cotton, tobacco, rice, indigo, and naval stores. Throughout the ante-bellum period the South always ranked high as a producer of articles which entered extensively into the foreign and coastwise commerce of the United States, but the merchant marine which carried this commerce was chiefly owned and operated by the more sea-faring people of the Northern states. At no time prior to 1865 did the Southern states own more than about one-third of the American tonnage, and as time went on this proportion became considerably reduced.

In 1789 we are informed,* that the total tonnage of the American merchant marine amounted to 279,588 tons, and that of this amount 103,642 tons, or nearly 37 per cent., must be credited to the Southern states of Maryland, Virginia, South Carolina, and Georgia. These figures, however, lose sight of the fact that much of the tonnage registered in the South was not owned by its inhabitants. A report of the Lords of the Committee of the Privy Council for Trade and Plantations informs us that in 1791 only one-eighth of the vessels credited to these four states of the South belonged to residents thereof; that from five-eighths to six-eighths belonged to merchants resident in Great Britain, and that the balance was owned by British merchants occasionally resident in these states.†

* *Debates of Congress*, Vol. I, p. 180, May 5, 1789.

†Report of the Lords of the Committee of the Privy Council for Trade and Plantations, dated 28th of January, 1791, p. 74 et seq.

By 1810 the tonnage of the American merchant marine had increased to the remarkable figure of 1,424,783 tons, owing chiefly to the fact that our shipowners took full advantage of the suspension of foreign shipping caused by the Napoleonic wars. America came to be recognized as the foremost carrier in the world. Yet of this splendid increase in American tonnage, the South enjoyed only a minor share. Of the total tonnage in 1810 only 221,000 tons or about one-sixth was owned in districts between the Mississippi and Potomac rivers; 321,000 tons or less than one-fourth between the Potomac and Hudson rivers, including New York City; and 882,000 tons, or considerably over one-half was owned in districts situated north of the Hudson River. With a population of only 1,254,000, or about one-fifth of the total of the country, New England owned over one-third of the American tonnage. Whereas the registered tonnage held in the state of Massachusetts bore the ratio of 0.037 tons to each inhabitant, the ratio for Virginia, North Carolina and Georgia was only 0.03 to each inhabitant. Maryland and South Carolina were the only Southern states which figured at all prominently in the American tonnage, and their respective ratios were 0.17 and 0.09 tons each. By 1830 the tonnage of the South, "registered"* and "enrolled" amounted to only 228,000 tons or less than 20 per cent. of the country's total.

The thirty years following 1830 may be justly described as the "Golden Period" of the American merchant marine. During this period the American "Clipper" ship, for which in the South Baltimore was prominent, received its highest development, and, until the introduction of iron as ship-building material and steam as motive power, was the most

*Registered tonnage pertains to the shipping engaged in the foreign trade, and enrolled tonnage to the shipping used in the coastwise trade.

efficient carrier in the world. American registered tonnage in the foreign carrying trade increased with remarkable steadiness from 576,675 tons in 1830 to 2,546,237 tons in 1860, the highest point ever reached in our history, and a tonnage nearly two and one-half times as large as the largest tonnage registered for any single year prior to 1840. Not only did the American tonnage increase by over 442 per cent. in thirty years, but throughout the three decades American vessels carried on an average 70 per cent. of the greatly increased imports and exports of the country, the percentage in some years running over eighty. It was during this epoch, also, that American trade with the Far East and other distant parts of the globe became more prominent than ever before, and unlike the practice of to-day, the owners of the ships engaged in this long distance traffic were usually the merchants who owned the cargoes.

The coastwise trade of the country also enjoyed an enormous and remarkably steady growth during this epoch of thirty years. By the American Navigation Act of March 1, 1817, the American coastwise trade was entirely closed to foreign vessels, and in consequence of the absence of competition, and the great industrial and commercial development of the country, we find that the "enrolled" tonnage engaged in the coastwise trade increased from 615,311 tons to 2,807,631 tons, or 463 per cent. The entire country's shipping, "registered" and "enrolled," therefore, increased during the thirty years from 1,191,776 to the high total of 5,353,868 tons.

This unprecedented advance in the country's shipping industry, however, was enjoyed by the South to a smaller extent than by the North. The South was still devoting its energies to the production of the great staples, and the extension of the plantation

system, and as pointed out, commerce and navigation are not necessarily united in the same states. It is true the South increased its registered tonnage absolutely from 93,352 tons in 1830 to 395,325 tons in 1860, and its "enrolled" tonnage from 134,937 tons to 651,272 tons, an aggregate increase of nearly 459 per cent. But the percentages are based on smaller sums, and while the South increased its total tonnage during this period by 818,000 tons, the Northern states increased theirs by 3,344,000 tons, which latter figure, however, includes the coastwise tonnage on the Great Lakes. In 1830 the tonnage of the Southern states in the foreign trade amounted to over 16 per cent. of the country's total, and in 1860 had fallen to only 14 per cent. During the entire period the South's coastwise tonnage just about maintained the uniform proportion of 23 per cent. of the country's total.

It remains to be stated that between 1840 and 1860 a notable change in the American Merchant Marine had its beginning, since during this period over 4,000 steam vessels of various types were constructed. On the Mississippi and its tributaries this meant that the end of the flatboat days was in sight. But as regards the ocean commerce nearly all the steam shipping was owned in New England and New York. In the foreign trade all the subsidized mail steamers, with the exception of a single line from Charleston to the West Indies, sailed from Northern ports. In fact, so largely was the ownership of steam tonnage confined to the North that it was ultimately the great misfortune of the American steam marine at this critical period of its development, to be drawn into the sectional strife between the North and the South. The slavery question was becoming increasingly the overmastering element in national politics and the bitterness of the struggle and the relative strength

of the two sections in Congress, soon made it impossible for the North to secure the passage of subsidy grants to assist its steamship lines in their competitive struggle with the larger and more firmly established lines of Great Britain.

BIBLIOGRAPHY.—Bates, Wm. W.: *American Navigation: Its Rise and Ruin* (Boston and New York, 1902), and *The American Marine: The Shippers Question in History and Politics* (Boston, 1893); De Bow, J. D. B. (ed.): *DeBow's Commercial Review of the South and West* (New Orleans, 1846-1861); Dunmore, W. T.: *Ship Subsidies* (Boston and New York, 1907); Hill, U. S.: *History of American Shipping* (New York, 1883); Marvin, Winthrop S.: *The American Merchant Marine* (New York, 1902); Seybert, Adam: *Statistical Annals* (Philadelphia, 1818); Soley, J. R.: "The Maritime Industries of the United States" (Chap. X, in Vol. I, of Shaler's *The United States of America*, New York, 1897); Wells, D. A.: *Our Merchant Marine* (New York, 1887); *Annual Reports* of the Secretary of the Treasury on Commerce and Navigation from 1821 to 1860 inclusive: *Causes of the Reduction of American Tonnage and the Decline of Navigation Interests, Report* of a Select Committee of the House 41st Congress 2nd session (Washington, 1870).

SOLOMON S. HUEBNER,
Professor of Insurance and Commerce, University of Pennsylvania.

TELEGRAPHIC COMMUNICATION IN THE SOUTH.

THE success of Morse's experimental telegraph line between Washington and Baltimore in 1844 was quickly followed by the formation of companies in the East and South, and shortly by a widespread introduction of the system. Amos Kendall, postmaster-general of the United States, a confident supporter and partner of Morse, early appreciated the value of the South as a field for the telegraph. He pointed out that the express mail between New York and New Orleans yielded enough annually to pay for a telegraph line; that the mail required two weeks for an exchange of messages between the two

cities, whereas the telegraph would permit it "several times a day"; that the traffic would stand a double charge for this advantage; and that the press which paid nothing to the mail, would pay well for telegraphic news. The gross annual revenue of the mail from the New York-New Orleans business was $280,000. From an analysis of mail returns showing the chief business to be between New York and Philadelphia on the one hand and Mobile and New Orleans on the other, Kendall predicted a minimum figure of $450,000 as the net annual earnings of a telegraph line between the two extreme cities. Consequently the Washington and New Orleans Telegraph Company, the second in the United States, was started in 1846 and opened with large business. It became and remained one of the most important lines in the country. Its lines since the early ruinous days of experimentation have been equipped and maintained in the best condition. Being a pioneer, its operating troubles were many, and its short independent life was a sacrifice to the progress of the art. In 1856 the company was leased to the Magnetic Telegraph Company, the first commercial company in the United States, operating between New York and Baltimore. This company was also started by Morse and Kendall, the legislature of Maryland granting the charter in 1845. The cash receipts of the Magnetic Telegraph Company were $4,228 in 1846 and $103,641 in 1852. Since 1856 the history of these two companies, in common with most of the others in the South, merges with that of the American and Western Union Telegraph companies.

A famous contract between the Morse interests and Henry O'Reilly, for the construction of new lines westward was closed in 1845. This contract covered a line through Pennsylvania and Ohio to

St. Louis. The Atlantic and Ohio Telegraph Company (1848) was part of this movement. This line was between Philadelphia and Pittsburg with a branch to Baltimore, which greatly enlarged the traffic over the New York and New Orleans lines. It was early extended to Louisville and St. Louis, the former city by this time being in communication with New Orleans. During the construction of the Pittsburg, Cincinnati and Louisville line O'Reilly quarrelled with the Morse interests headed by Kendall; the latter placed F. O. J. Smith in authority, who in his aim to acquire greater personal interest effectually prevented a settlement of the controversy. O'Reilly, enthusiastic engineer, loving the action of construction rather than pecuniary return, began building the People's Telegraph Company from Louisville to New Orleans via Nashville, Columbus and Jackson, with a branch to Memphis. This was directly contrary to the terms of the contract with the Morse interests, but heartily endorsed by the people, who wanted the service. The line was finished in 1849, but was so poorly constructed as to go to pieces almost immediately.

Meanwhile, in 1847, Kendall had secured an injunction against O'Reilly and organized the New Orleans and Ohio Telegraph Company, via Wheeling, Lexington, Natchez, and Vicksburg, which though also poorly constructed, withdrew support from O'Reilly's line. The latter was about to go to the wall when repaired and resuscitated by James D. Reid under personal lease. The rival companies were united in 1853 with bright prospects, for the country was clamoring for the service. The yellow fever and severe storms, however, practically wrecked the company, which was sold at sheriff's sale and reorganized as the South Western Telegraph Company. Its president, Dr. Norvin Green,

secured a right of way along the railroads, resulting in protection and improved maintenance. The receipts rose from $90,000 for 1852 to $124,000 for 1855 and to $251,000 in 1858. The company became extinct after some years by union with the American Telegraph Company, and later (1866) with the Western Union System, the stockholders receiving $2,000,000 of Western Union stock.

The Ohio and Mississippi Telegraph Company was the O'Reilly extension from Louisville to St. Louis. Completed in 1848 it had a long independent existence, passing to the Western Union Company in 1871. Little or no record of the amount and nature of the business of the early telegraph companies is available. Most of these companies passed sooner or later into the control of the Western Union, and whatever traffic records may have been preserved were apparently destroyed by a disastrous fire in the New York building of the Western Union Company. The excellent comparison given by Kendall, between the mail and the telegraph, and the fact that within the first ten years of the history of the latter nearly all the principal cities of the South were in communication, are however eloquent evidence of prompt appreciation by the people of the value of the new art. Companies sprang up in every direction soon making combinations necessary for a workable system of rates and a prompt service. Under Kendall the lines on the coast from Maine to Louisiana were consolidated as the American Telegraph Company, which in 1866 was absorbed by the Western Union. During the war, through the energy of Dr. W. S. Morris, the Confederate Telegraph Company was formed by the Southern stockholders of the American Telegraph Company and operated the lines of the latter company in the South. In spite of ruthless and ill-

considered military interference, the lines were maintained in good order, the affairs properly administered, and the system faithfully restored to the American Company when the war ended.

BIBLIOGRAPHY.—Morris, William S.: *Report on Southern Telegraph Companies* (Richmond, 1862); Prescott, George B.: *History, Theory and Practice of the Electric Telegraph* (New York, 1877); Reid, James D.: *The Telegraph in America* (New York, 1879); Records, Statistics, and Correspondence of the Western Union Telegraph Company.

JOHN B. WHITEHEAD,
Associate Professor of Applied Electricity, Johns Hopkins University.

STREET RAILWAYS IN THE OLD SOUTH.

No one has written any comprehensive account of the early development of street railways in the South, nor even for any single city in the South. It is believed, however, that the facts here presented, which have been culled from various sources, give the main course of events in the early development of street railway transportation in the Southern cities.

Speaking generally, it may be said that the real history of street railroads in the South was just beginning at the outbreak of the War of Secession. In fact, New Orleans was the only Southern city in which street railways had been in operation for any great length of time prior to 1861.

New Orleans.—By an ordinance approved March 15, 1833, the New Orleans and Carrollton Railroad Company was authorized to lay a single track in certain specific streets. Evidently the city fathers felt some doubt about the propriety of permitting this innovation, for the ordinance referred to provided that if a majority of the inhabitants or property

holders on any street through which the railroad passed complained thereof as a nuisance, the company, after thirty days' notice, had to remove the tracks and put the street in the same order as it was before. The company was to provide "their cars or steam carriages with breaks or safety guards." This indicates an expectation that steam might be used in operating their road, but this option of using steam, if it existed, was repealed the very next year, when an ordinance provided that "no steam engine should be permitted on said railways; but that the cars should be moved by horses *on a walk.*"

The fares on this line were fixed in 1834 at twelve and one half cents from Canal street to Tivoli Circle; eighteen and one half cents from the Circle to Jackson street; and fifty cents from the Circle to Carrollton street. The line was opened in 1835. Some of the property owners seem promptly to have availed themselves of their right to protest against this innovation, for on June 10, 1835, an ordinance provided that the company should remove its track "existing and being in Magazine street" within ten days.

Another railway in the city was authorized March 23, 1835. This was to run to the burying ground with branches in different parts of the new burying grounds. It was evidently expected that this road would be used for funerals, and possibly this was its principal use. At any rate the charter provided that the contractor was to furnish separate cars for the transportation of the corpses of white persons, of free colored persons, and of slaves. These cars were to be drawn by horses and were not to go at more than a pacing rate. The contractor was obliged to transport the corpses offered. The fare for one corpse in a car was three dollars, but when transported in a car destined to carry eight corpses, the

charge was to be one dollar and fifty cents for each corpse of a white person and fifty cents for each corpse of a slave. For each person accompanying the funeral, the fare was to be twelve and one half cents each way.

It is not clear that the New Orleans street railways, in the decades immediately succeeding, attained much importance. Steam dummies were used in 1845, and later rope cables were tried. In 1859 a new ordinance was passed, more elaborately worked out, and, in the specifications, reference is made to the requirements in Philadelphia. The statement has been made* that the New Orleans and Carrollton railroad was the first line of street cars established in the United States, but it appears that a line in New York was opened in 1832, or three years before the New Orleans line went into operation, although the real history of street cars in New York does not begin until the fifties.

Baltimore.—The history of street railroads in Baltimore begins with an ordinance approved by Tho: Swann, Mayor, March 28, 1859, empowering certain persons "to lay down tracks for a passenger railroad on Baltimore street and other streets." The building of the road was to be under the joint supervision of the city commissioner and the joint standing committee on highways. The gauge was to be the same as in use for street carriages "so as to permit of the passage of such carriages on the tram plate of said railways." Cars were not to run on the Sabbath day, the penalty being fifty dollars per car. The fare was not to exceed twenty-five cents per passenger. The company was required to purchase the property of existing omnibus lines.

*In the standard *History of New Orleans*, edited by Henry Rightor (Chicago, 1900), p. 311.

In addition to license money of twenty dollars per car the association was to pay into the city treasury quarterly one-fifth of the gross receipts, the city having the right to choose a reduction of fares in place of these gross receipts. The association was required to keep the streets in repair two feet on each side of the track. Within two years after the expiration of fifteen years, the city had the right to purchase the road at a "fair and equitable consideration or value." The cars were to run at intervals of not over ten minutes from 6 A.M. until midnight from April to October, and from 7 A.M. until midnight from October to April, and the speed was not to exceed six miles an hour.

During the year ending April, 1862, there were in operation fifty cars, with 350 horses, and 3,738,162 passengers were carried. In 1869 there were seventy-five cars and 600 horses on thirty-two miles of track, transporting 11,385,464 people. The tax of one-fifth of the gross receipts payable to the city of Baltimore for public parks had been, up to Oct. 1, 1870, $758,-887, while from 1864 to that date the company paid dividends on stock and government tax to the amount of $350,000.

Washington and Other Cities.—It is hardly probable that any Southern cities besides Baltimore and New Orleans had street car lines in operation at the outbreak of the war, although ordinances providing for the construction of street railways were enacted by several cities in the South in 1859 and 1860. But the war doubtless checked this movement for the time being.

Washington did not have a street railway until 1862, when the concentration of troops in and around the city gave rise to an urgent demand for some better method of public transportation than hacks, for which the charges were two dollars an hour. The

result was the incorporation of the Washington and Georgetown street railway which, by the terms of its charter, was forbidden to charge more than five cent fares.

BIBLIOGRAPHY.—Crew, H. W.: *Centennial History of the City of Washington, D. C.* (Dayton, Ohio, 1892); Porter, J. A.; *The City of Washington, Its Origin and Administration* (in *Johns Hopkins University Studies,* xi-xii); Anonymous: *Baltimore; Past and Present* (Baltimore, 1871); Rightor, Henry (ed.): *Standard History of New Orleans* (Chicago, 1900); *Mayors' Messages* and *Municipal Ordinances* must be consulted, as there is no comprehensive history of the subject.

EDWARD B. DURAND,
Director of the Census, Washington, D. C.

COMMERCE.

UNITED STATES TREATIES AND FOREIGN COMMERCIAL POLICIES AFFECTING SOUTHERN ECONOMIC DEVELOPMENT.

WHEN the United States achieved political independence, the South, so recently torn by civil strife and not yet recovered from the misfortunes which it had suffered at the hands of the British, found its interests in collision with the British colonial system. After the failure of Pitt's bill of 1783 for free trade between the United States and British colonies, parliament reënacted an orthodox navigation act which, strictly enforced, closed the British West Indies to American traders and subjected American vessels to heavy tonnage dues in other British ports. Congress also failed to secure commercial treaties with France, Holland, Spain, and Portugal. France, whom Jefferson, in 1784, had urged to abolish the monopoly on American tobacco held by the Farmers General, although she finally, in 1791, passed decrees abolishing the farm on tobacco, prohibited the importation of all except leaf-tobacco, and levied a high duty on its importation in any except a French vessel. Though Prussia and Sweden made treaties with the United States guaranteeing reciprocal commercial privileges, Spain refused to make such a treaty except on condition that the United States should surrender for twenty-five years the right to navigate the Mississippi.

In the long wars resulting from the French Revolution, Southern industries found an opportunity to

develop. The conditions abroad and in the West Indies encouraged bold enterprises headed by great American merchant princes, such as William Gray of Boston, J. J. Astor of New York, Stephen Girard of Philadelphia, and the Pattersons of Baltimore. The European powers could no longer maintain their colonial policy of restriction. In 1793 France opened the ports of her American colonies to the vessels of neutrals; and after 1808, when Napoleon crossed the Pyrenees, there began a conservative revolt which finally almost terminated Spanish colonial monopoly in the western hemisphere south of the United States. Even England, who still retained her colonial authority after the period of Spanish-American revolts, was finally induced to recede from her colonial restrictions, while her earlier war on American commerce had been effectively checked by the War of 1812.

From 1793 to 1801 the South profited by the European demand for colonial products which was largely filled by American merchants and shipowners who traded extensively with both the West Indies and the East Indies.

Although European nations were glad to employ American merchants and vessels as carriers and intermediaries, the policy of England and France was to injure or check American commerce. Their efforts, however, were unsuccessful in preventing the growth of American shipping which continued till 1807, except for a brief period after the treaty of Amiens when there was a slight check. During the more favorable part of the period, a direct trade with Mediterranean countries, with Germany, Sweden, and Russia, and with China and the East Indies was added, and exports were largely agricultural. Cotton had changed from an insignificant to an important item of trade. The progress of the culture of

sugar-cane in the South was also greatly stimulated after 1794—first by Frenchmen, who, driven from San Domingo, found a home in Louisiana. It was encouraged later by the labor questions in the West Indies, which induced many planters to emigrate from Jamaica to Georgia, and also by the high price of sugar caused by the embargo of 1808.

The English orders in council and Napoleon's Berlin and Milan decrees, however, greatly damaged American commerce and shipping. The Embargo Act, adopted by Jefferson to force a withdrawal of these restrictions, increased the damage—not only in commercial New England, but also in the agricultural states, especially in those of the South. The tobacco crop, the mainstay of the South, remained unsold. Abroad there were attempts, both in France and in Germany to introduce the cultivation of sugar beets, and of tobacco to take the place of the American products. The damage was further increased by the complications finally precipitating the war of 1812, which paralyzed every industry at the South. Cotton, rice, and tobacco, like wheat, accumulated in the warehouses until the close of the war. The farmers of the West and South felt greatly the pinch of hard times.

The treaty of Ghent ushered in a new era of prosperity. In spite of trade restrictions, and discriminating duties laid by the British parliament upon American cotton, the demand for American products abroad caused an increase in value of our exports from $6,000,000 in 1814 to $81,000,000 in 1816, and to $93,000,000 in 1818. German immigration to America *via* Havre soon began to reduce freights on Southern cotton, rice, and tobacco by offering a return freight which the English navigation policy had denied American ships.

By 1820, as a result of the industrial revolution in

England and changes in foreign economic policies, cotton had become the chief export of the United States. A demand for raw cotton far beyond the world's supply, had caused the spread of cotton culture first from the seacoast to the uplands and by 1820 to the gulf plains that later achieved supremacy in its production. In the decade following 1820, three-fifths of the average total annual amount of the domestic export of the United States consisted of cotton, tobacco, and rice. As a result of this development and the accompanying development of the West, upon which the South was becoming more and more dependent for its horses and mules and food supplies, New Orleans rapidly won the place of second city in the Union in domestic exports. At the same time Southern leaders, such as Calhoun, influenced by various economic changes—including the decline in value of the older lands, the increase in the price of slaves, and the continued decline in the price of cotton which accompanied the increase of production, and the failure of the tariff of 1816 to benefit the South—changed their economic protective tariff policy of the previous decade, and definitely accepted the tariff-for-revenue policy based on free trade notions by which they might obtain cheaper manufactured articles from England, the chief market for Southern products. They complained of the American protective policy which they said levied a tax on the Southern consumer and, by engendering a commercial warfare with European countries whose policies were hostile, might deprive the South of its markets and force it to change its industrial life by the addition of manufactures competing with the Northern states —a competition which might result in a Northern attack upon the cheaper labor system of the South.

The decline in American exports for a decade fol-

lowing 1818, was due partly to the more active competition of foreign merchants and shipowners and the hostile tariff legislation of European nations by which England, France, Holland, Belgium, and Russia were rapidly extending their foreign trade.

In 1819, England, who at the close of the Napoleonic wars had reduced the duty on cotton almost one-half, began a series of discriminating duties against cotton not grown in the British possessions. For the decade after 1821, American cotton was subjected to a duty of 6 per cent. *ad valorem,* while cotton from the British possessions was subjected to no duty or at most only 4d. per hundred-weight.

From 1830 to 1840, however, was a period of expansion in American exports. They rose in value from $71,000,000 in 1830 to $124,000,000 in 1836, due largely to the increased foreign demand for cotton.

This increase was also due in part to a number of commercial reciprocity treaties which, although they were not favorable to the shipowners, greatly benefited the farmers and planters whose surplus products were sent to foreign markets at declining rates. In 1826 Denmark had agreed to a treaty somewhat more favorable than the partial reciprocity treaty of 1797. Prussia, who in 1785 had made a satisfactory reciprocity treaty with the United States, in 1828 agreed to a new treaty guaranteeing "reciprocal liberty of commerce" free from discriminating duties on the vessels of either country. Similar treaties were negotiated in 1827 with Hamburg, Bremen, Lubeck, Sweden, and Norway; in 1829 with Austria-Hungary; in 1832 with Russia. A treaty of 1822 with France, slightly modified in 1831, remained the basis of our commercial relations with that power until 1892. The value of cotton exports rose from $24,106,000 in 1816 to $36,846,000 in 1825 and to $64,661,00 in 1835.

England, who although she had made (in 1815) a treaty opening a small part of the West India trade to the United States for four years, and in 1818 had renewed it for ten years, had, in the face of the protests of Southern statesmen, continued to pursue about the same colonial policy as before, and had almost completely shut American shipping from West India ports, in 1830 finally agreed with President Jackson to open these ports to the commerce of the United States. Under this advantageous agreement, the value of American exports to the West Indies rose from $1,901 in 1830 to nearly $3,000,000 in 1840. Spain, however, to check trade, in 1832, imposed heavy discriminating duties upon American vessels trading with Cuba and Porto Rico. Although the United States, by tardy acceptance of the invitation to the Panama Congress of 1826, allowed the commerce of the South American republics (which might have been largely secured for American merchants) to pass into foreign control, she secured, by negotiations conducted usually under the direction of Southern men, commercial treaties with Columbia (1824), the Argentine confederation (in 1827), Brazil (in 1828), Mexico (in 1831), Chile (in 1832), Peru and Venezuela (in 1836), and Ecuador (in 1839). These were regarded as beneficial to Southern interests.

The South was also benefited economically by the breaking down of the narrow policies of commercial obstruction and non-intercourse in the East and the Far East, beginning with a treaty of commerce negotiated with Turkey in 1830, and the treaties with Siam and the Sultan of Muscat, negotiated by Edmond Roberts in 1830 under instructions from President Jackson.

The commercial progress which was checked by the panic of 1837 was resumed again in 1847 and at

the South the increase of the cotton trade especially continued with usual development, except during the panic of 1857, until the secession of the Southern states. This development was due to many causes including (1) the British-Chinese war, which diverted a large part of the Chinese trade into American hands and led to the building of fast sailing clippers of the Baltimore type, which extended the markets for Southern cotton; (2) the war with Mexico and its economic results; (3) foreign revolutions, wars, and famines which created a demand for American products, both Southern and Northern, and furnished many American immigrants who assisted to develop the country and enlarge the demand for foreign importations; (4) the repeal of the British corn laws which increased the British demand for American exports; (5) the removal of the system of differential duties by the Canadian legislature (1846); (6) the suspension of the navigation laws in France, Holland, and Belgium; (7) the Crimean War (1853-56); (8) the rebellion in India (1857); and (9) the negotiation of various commercial treaties.

The English manufacturers, as a result of the heavy shipments of American cotton goods to China in 1841-43, began a clamor which resulted in abolition of all duties on cotton-wools imported from all quarters of the globe, and (notwithstanding the importation of cotton from India, Brazil, and Turkey) left the South almost a monopoly of the British cotton market. At the same time either natural operations or speculative operations, or both, resulted in a depression of the price of cotton which induced many planters, especially in Louisiana, to abandon the cultivation of cotton and to turn to the cultivation of sugar cane. In 1846-47 the falling off in the cotton crop produced a rapid rise in prices which caused the English spinners to renew complaints

to Parliament against the East India Company for failing to promote the culture of cotton in India. In the decade from 1850 to 1860, largely owing to the various causes stated above, there was a steady increase of cotton production, and prices always remained high enough to allow a fair price to the planter. In 1857, the slight rise in prices caused by a short crop in the South resulted in the organization of the "Cotton Supply Association of Great Britain" whose object included a plan to induce the British government to increase transportation facilities in India, with a view to lessening the dependence of Great Britain upon the United States; but these plans were frustrated by the India mutiny of 1857.

British free trade in a remote way gave a stimulus to the railroad expansion of the South and West which furnished cheaper transportation for the products of the cotton fields of the South and the boundless grain fields of the West.

The number of treaties established during this period, affecting Southern as well as national interests, suggests the expansion of trade along many courses. Treaties were negotiated as follows: in 1840 with Portugal; in 1839 and 1852 with Holland; in 1845 and 1858 with Belgium; in 1855 with Switzerland. The treaty of 1826 with Denmark was abrogated by the United States in 1856, but became operative again in 1857. In 1844, Mr. Henry Wheaton negotiated a treaty with the German Zollverein, materially lowering the excessive duties on Southern rice and tobacco. Although the Senate, by a strictly party vote of twenty-six to eighteen, rejected this German reciprocity treaty, in 1854 it agreed to a similar treaty with Great Britain which rapidly increased the trade between the United States and Canada until its termination by the United States in 1866.

Relations with the Spanish West Indies continued unsatisfactory. In 1847 Spain issued an order which prevented the transportation of cotton to Cuba in American vessels. This measure affected the interests of the South, which continued until 1860 to urge the acquisition of the island. The United States was finally provoked to retaliate, and commercial relations were seriously checked. Although after 1852 Spain allowed American vessels to enter her West India ports, she continued to maintain the high discriminating port and tonnage duties which almost excluded American trade for a third of a century.

With the Spanish American countries after the Mexican War, several treaties securing freedom of commerce and navigation were negotiated: with New Granada in 1846; with Mexico in 1848; with Guatemala in 1849; with San Salvador in 1850; with Costa Rica and Peru in 1851. New regions in South America were opened to trade. In 1853 the United States, with France and Great Britain, obtained a treaty from Argentina granting the free navigation of the rivers Parana and Uruguay. In 1859 Paraguay was induced by the American minister to make a treaty conceding to the United States merchants the free navigation of the Paraguay and Parana so far as they lay within her territory. All attempts, urged by the South to obtain the free navigation of the Amazon, in 1853 and thereafter, failed until 1866, when Brazil finally voluntarily granted it to all nations. Trade with China was facilitated by the treaties of 1844 and 1858; and with Japan by the treaty of 1854.

Among the principal factors contributing to Southern economic development must be included the acquisition of Texas in 1845, the Mexican cession in 1848, and the Gadsden strip in 1853—the logical

continuation of the earlier policy of adjusting foreign difficulties by annexing neighboring possessions, begun by the acquisition of Louisiana and Florida by treaties in 1803 and 1819.

The Southern interests and policies after 1830 were also affected by various foreign policies, such as: the British policy of emancipation in the West Indies, and the questions resulting therefrom; English policies relating to slavery in Cuba and Texas; the operation of Quintuple treaty (in 1842) for the suppression of the slave trade; the restrictions of the Clayton-Bulwer treaty of 1850; the apprehended purpose of the proposed joint tripartite treaty of 1852 in regard to Cuba; and the attitude of England, France, and Spain in regard to the affairs of Mexico, in which Southern statesmen were seeking to secure a controlling influence, and with which, in 1860, they secured a treaty which, though never ratified, would have given the United States a protectorate beneficial to certain Southern economic interests.

Many advantages and events combined to give the South almost a monopoly of the cotton supply. The West India supply fell from 71 per cent. of the total in 1793 to less than 7 per cent. by 1816-20, and after 1836-40 became insignificant, and so remained, even during the high prices of the Civil War. The Brazil supply, 8 per cent. of total in 1793, gained till 1826-30, but decreased in the subsequent thirty years, though considerably stimulated during the Civil War. In 1860, in spite of the many efforts to foster cotton culture in India, Egypt, and Brazil, England was still absolutely dependent upon the product of the South where she found a compensating advantage in the increasing market for cheaper cotton goods. The French demand was also great. The importation of cotton to France which had almost quadrupled from 1820 to 1855, was further in-

creased between 1855 and 1859 by the French abolition of the duty on raw cottons. The new English policy of faster and regular steamship lines, inaugurated in 1837 in order to compete successfully with the American fast clipper ships, finally won the support of Southern planters, and controlled the carrying trade. To prevent diversion of trade along routes toward the North, Charleston subscribed stock for an Atlantic steam navigation company, and Virginia proposed a subsidy for a French-American line from Norfolk where she planned to concentrate the control of the Western commerce, but these and other similar attempts failed.

In attempting to establish the Southern Confederacy, the Southern leaders based their hopes of success and of European recognition largely upon the foreign demand for Southern cotton and the adoption of a *laissez faire* commercial policy. The intervention of European powers alone could have prevented the cessation of Southern commerce, and President Davis, disappointed by England and actually deceived by Napoleon, blamed them for the great loss of life which had resulted from their failure to relieve the Southern economic distress by breaking the blockade. Though Napoleon was willing to accept the advantages which the Confederacy offered him to break the blockade, he feared to act alone in such a policy, and hesitated while the Confederate commerce continued to decrease in importance. Mr. Davis declared that the cessation of Southern commerce was due not to the blockade but to the "seizure along the coast or on the high seas of neutral vessels bound to points where not a blockade vessel was ever stationed," and through Benjamin he vainly urged England to secure a monopoly of the Southern commerce by encouraging her citizens to purchase Southern products *en depot,* and by establishing

West India depots of supplies needed by the Confederacy, and by preparing merchant steamers for sale in Southern ports.

The failure of the South to secure recognition and intervention from Europe to break the blockade paralyzed completely the cotton-growing industry and placed its future in great jeopardy. The chief menace to the future cotton production of the South lay in the efforts that were made by other cotton-growing countries during the war to produce the varieties which had so long given the South the monopoly of the European market, but it took the Southern states only thirteen years from the end of the war to regain the primacy of position which they held at its commencement.

BIBLIOGRAPHY.—Benton, T. H.: *Abridgment of Debates* (1860-61); Bogart, E. L.: *Economic History of the United States* (New York, 1908); Callahan, J. M.: *Cuba and International Relations* (*Johns Hopkins Univ. Studies*, extra volume, Baltimore, 1899); Callahan, J. M.: *Diplomatic History of the Southern Confederacy* (The Johns Hopkins Press, Balt., 1901); Coman, Katherine: *The Industrial History of the United States* (New York, 1905); Hammond, M. B.: *The Cotton Industry* (New York, 1897); Latané, J. H.: *The Diplomatic Relations of the United States and Spanish America* (The Johns Hopkins Press, Baltimore, 1900); Moore, J. B.: *American Diplomacy* (New York, 1905); Pitkin, Timothy: *A Statistical View of the Commerce of the United States* (New York, 1817); Schuyler, Eugene: *American Diplomacy* (New York, 1886); Turner, F. J.: *Rise of the West* (New York, 1906); *American State Papers:* "Foreign Relations" (Washington, 1832-61); Department of Agriculture: *Bulletin 33* (Dabney) (Washington, 1901), and *Year Book* (Washington, 1896); *Eighty Years' Progress* (New York, 1864); *Journal of Political Economy* (Vols. VIII and X); *Treaties and Conventions Concluded between the United States and Other Powers* (Washington, 1871).

JAMES M. CALLAHAN,

Head of Department of History, West Virginia University.

THE FOREIGN COMMERCE OF THE SOUTH.

Throughout the colonial period of American history about three-fourths of the foreign trade of the thirteen colonies had its origin in the South. Tobacco was the chief item of export, and made Virginia and Maryland the foremost exporting colonies. In fact, one-half of the total exports of all the colonies to the mother country had its origin in the tobacco plantations of these two colonies, the exports increasing from 28,000,000 pounds in 1700 to 85,000,000 in 1750.

Rice and indigo constituted the basis of the foreign trade of South Carolina and Georgia. From 50,000 to 80,000 barrels of rice were exported annually from South Carolina alone, chiefly to Spain and Portugal; and the production of indigo grew so rapidly between 1740 and 1772 that the annual shipments to England frequently exceeded 1,000,000 pounds. Most of the Southern colonies, taking advantage of the export bounties offered by Great Britain, also exported considerable quantities of tar, pitch, and turpentine. Toward the end of the colonial era, when some of the tobacco planters turned to general agriculture, corn, wheat, flour, hemp, and wool were shipped in limited quantities, chiefly to the West Indies.

About three-fourths of the exports from the Southern colonies were sent to Great Britain, and the statistics of this trade serve to show the rapid development of Southern foreign commerce. The exports of Virginia and Maryland to England increased in value from £317,300 in 1700 to £612,000 in 1774; those of the Carolinas from £14,000 to £432,300, and those of Georgia from £203 in 1733 to £103,400 in 1775. The remainder of the Southern exports went chiefly

to the West Indies and continental Europe, the customs records for 1769 showing that 14 per cent. of the exports of Virginia and Maryland went to continental Europe and 9 per cent. to the West Indies, and that the corresponding percentages for the Carolinas and Georgia were 11 per cent. and 15 per cent., respectively. By far the largest portion of the imports of the Southern colonies came from the mother country, continental Europe furnishing in 1769 less than 2 per cent. and the West Indies less than 13 per cent.

With the beginning of the Nineteenth century a new commodity, cotton, made its first rapid gain in the foreign commerce of the South. The foreign trade in tobacco still continued at the annual value of over $6,000,000, and Southern rice also found a ready market in England, Holland, Bremen, and Hamburg to the extent of from $2,000,000 to $3,000,000 in value annually. The indigo exports of South Carolina and Georgia, however, almost disappeared, while the exports of naval stores remained almost constant. But with the invention of the cotton gin in 1793, cotton exports became so pronounced that by 1803 the great staple tobacco was displaced, and cotton became the king of Southern exports. It was exported to Great Britain, France, Holland, the German ports, Russia, Sweden, and Spain to the value of from $5,250,000 in 1802, to $15,108,000 in 1810, and $17,529,000 in 1815. No event has contributed more to the permanent increase of the foreign trade of the South than the invention of the cotton gin.

With the beginning of the Nineteenth century New Orleans also began to contribute materially to the American export trade. New Orleans had long traded with the West Indies and southern Europe, and a small trade was carried on with the Atlantic ports of the United States. But within a period of

FIRST CUSTOM HOUSE IN THE UNITED STATES, YORKTOWN, VIRGINIA.

ninety-one years this city with the province of Louisiana had changed hands six times, and in matters of trade the greatest uncertainty always existed. New Orleans, however, was the natural gateway through which the settlers of the Mississippi and Ohio valleys hoped to find a market for their products, and with the sale of Louisiana to the United States in 1803, the foreign trade of New Orleans took on a new life. Kentucky, Tennessee, Ohio, and other western settlements floated their products down the Mississippi and its tributaries, to be combined with products of the immediate vicinity of the Gulf and shipped abroad. By 1807 the exports from New Orleans were valued at $4,321,000, or more than those from Georgia or North Carolina. Despite the industrial panic of 1818-19 and the severe foreign trade reaction from 1819 to 1830, the foreign trade dependent upon the Mississippi River kept steadily advancing* and furnishes a sharp contrast to the decline of foreign trade in our Eastern states, as shown by the table below.†

By 1830, despite a decade of business depression and declining foreign trade, Louisiana stood second only to New York in the export trade, and was surpassed only by New York, Massachusetts, and Pennsylvania in the value of its imports. The table also indicates that the foreign trade of Mobile, chiefly dependent upon the Alabama River, enjoyed a very considerable increase. The South also stood in a favored position during this period, since the foreign

*See article, "United States Treaties and Foreign Commercial Policies Affecting Southern Economic Development."

†AMERICAN EXPORTS BY STATES.

	1819	1830
New York	$13,578,000	$19,698,000
Massachusetts	11,399,000	7,213,000
Pennsylvania	6,294,000	4,292,000
Maryland	5,926,000	3,791,000
Virginia	4,392,000	4,793,000
South Carolina	8,251,000	7,627,000
Georgia	6,310,000	5,337,000
Alabama	51,000	2,295,000
Louisiana	9,969,000	15,489,000

trade recession of 1819 to 1830 did not extend to that great Southern staple, cotton. By 1830 cotton was grown not only over all of the South Atlantic states, but the Gulf states of Alabama, Mississippi, and Louisiana produced nearly one-half of the total crop. American manufacturers consumed only about 60,000,000 pounds, and the balance had to seek a foreign market, chiefly in Great Britain. Between 1819 and 1830 the cotton exports of the South increased from 87,000,000 to 298,000,000 pounds, or more than 200 per cent., and had it not been for a decline in the price of cotton, the table here given of export statistics would be much more favorable to the South.

By 1837 the cotton crop aggregated 1,423,000 bales as compared with only 979,000 bales in 1830, and nearly all the increase occurred in the new cotton states of the Southwest. Three-fourths of the entire crop sought and readily found a foreign market, owing to the expansion of England's textile industries and the decrease in the production of West Indian and Brazilian cotton. This huge cotton yield, together with innumerable commodities from the Mississippi and Ohio valleys soon made New Orleans the greatest port of exportation in America. The value of its exports increased from $15,000,000 in 1830 to $37,000,000 in 1836, as compared with $29,000,000 for New York. Exports from Mobile likewise increased in value from $2,295,000 to $11,184,000, or in excess of those reported for any Eastern state except New York and South Carolina.

In the import trade, however, the center of activity was in the North Atlantic states rather than in the South. During the decade prior to 1850 the imports of New York increased in value from $35,000,000 to $118,000,000, or 62 per cent. of the total import trade. New York had developed into a great distributing centre for the East, South, and West; and while the

imports of South Carolina, Georgia, and Alabama increased considerably, they were trivial in comparison with their heavy cotton exports. Louisiana increased the value of its imports during the decade from $7,599,000 to $15,118,000, or less than one-half the exports.*

During the last decade of the *ante-bellum* period, the three great tendencies in the foreign trade of the South, viz., the predominant position of cotton as an export article, the leading position of New Orleans as a port of export, and the relative decline of the South as a direct importer, continued to become more and more pronounced. This is indicated by the table given below.†

*The extent to which the South became an exporter, and the North an importer, is well illustrated by the following table:

DOMESTIC EXPORTS AND IMPORTS FOR 1850.

Port.	*Exports.*	*Imports.*
New York	$41,502,800	$111,123,524
Pennsylvania	4,049,464	12,066,154
Massachusetts	8,253,473	30,374,684
Totals	$53,805,737	$153,564,362
Maryland	$6,589,481	$6,124,201
Virginia	3,413,158	426,599
South Carolina	11,446,892	1,933,785
North Carolina	416,501	323,692
Georgia	7,551,943	636,964
Florida	2,607,968	95,709
Alabama	10,544,858	865,362
Louisiana	37,698,277	10,760,499
Totals	$80,269,078	$21,166,811

As regards the other States of the South, official data is very incomplete. As to imports, Missouri received, according to government records, $359,643 worth; Kentucky, $190,987; Tennessee, $27,966; and Texas, $25,650. No exports are recorded for Mississippi, Missouri, Kentucky, Tennessee, and Arkansas, while Texas is mentioned as having exported only $24,958. Most of the exports from these sources were recorded at the ports of departure, such as New Orleans, and thus appear in the above table. Histories also show a large import trade from the Eastern seaports overland to Missouri, Tennessee, and Kentucky, but these imports are recorded at the seaports of entry only, and cannot be definitely traced after starting their movement westward.

†DOMESTIC EXPORTS AND IMPORTS FOR 1860.

Port.	*Exports.*	*Imports.*
New York	$120,630,000	$233,692,000
Philadelphia	5,512,000	14,626,000
Boston	13,530,000	39,366,000
Totals	$139,672,000	$287,684,000
Baltimore	$8,804,000	$9,784,000
Richmond	5,098,000	902,000
Charlestown	21,179,000	1,569,000
Savannah	18,351,000	782,000
Mobile	38,670,000	1,050,000
New Orleans	107,812,000	22,922,000
Texas	5,772,000	533,000
Totals	$205,686,000	$37,542,000

It is seen that by 1860 the seven leading ports of the South exported over $205,000,000 worth of produce, or 55 per cent. of the total exports of the country. New Orleans increased its exports from $37,000,000 in 1836 to $107,812,000 in 1860, and Mobile from $11,000,000 to $38,670,000. The South had become the great export centre of the country, and the enormous increase in the production of cotton was the cause. By 1860 the exports of that staple reached the enormous total of $191,806,000, or over one-half of the country's total exports. Foreign imports, however, continued to go to the Northern distributing centres of New York, Philadelphia, and Boston. These three ports received $287,000,000 worth of imports in 1860 out of a grand total of $362,000,000; whereas the seven leading Southern ports received only $37,000,000 worth, or an amount less than one-fifth of their exports.

Bibliography—Brissot, J. P.: *The Commerce of America with Europe* (New York, 1795); Coxe, Tench: *A View of the United States of America* (Philadelphia, 1794); DeBow, J. D. B. (ed.): *The Industrial Resources, etc., of the Southern and Western States* (4 vols., New Orleans, 1852-53); Hammond, M. B.: *The Cotton Industry* (New York, 1897); Homans, J. S.: *An Historical and Statistical Account of the Foreign Commerce of the United States* (New York, 1857); MacGregor, J.: *Commercial Statistics of the United States* (London, 1850); Pitkin, Timothy: *A Statistical View of the Commerce of the United States of America* (New Haven, 1835); Seybert, A.: *Statistical Annals* (Philadelphia, 1818); *Reports* on Commerce and Navigation of the United States (published by the U. S. Bureau of Statistics from 1822 to date).

Solomon S. Huebner,
Professor of Insurance and Commerce, University of Pennsylvania.

THE INFLUENCE OF THE FACTORAGE SYSTEM, FOREIGN AND DOMESTIC, ON SOUTHERN AGRICULTURE.

In all civilized countries the factor has been recognized as a necessary part of the machinery of com-

merce. Since men first began to trade in commodities which they did not themselves produce, this agency, in one form or another, has been one of the important channels through which such commodities have passed from the grower to the consumer. As developed in the European countries possessing colonies oversea, the factor's function early became distinct from that of either a broker or a storekeeper, though partaking somewhat of both. Thus "factor" and "commission merchant" are historically interchangeable, and practically synonymous terms. The English factor's business became peculiarly identified with the handling of the great agricultural staples grown in the colonies for export to the mother country, and during the period of American colonial history his position and influence, as far as the agricultural colonies were concerned, were second only in importance to those of the government and the governing officials. In fact, the commercial policy of England toward the staple producing colonies was more or less shaped by the needs and demands of the factors and trading companies engaged in the business of handling colonial products.

The function and service of the factor were at first vitally necessary in the conduct of a business the producing end of which was carried on in a new country, with no accumulation of available capital, with no sufficient population on which to draw for labor, with no manufactures for supplying the need for implements and incidentals, and with no market for the consumption of what was grown. All these wants the factor supplied. The position was one of trust, and the relations which it developed frequently became intimate and close. But the business advantage of the association lay preponderatingly on the side of the representative of capital. The normal

position of the factor was that of creditor, and the balance on his books was seldom in the planter's favor.

A glance at the early stages of the business will show us why this was so, and at the same time explain the ill-effects of its operation on the economic development of both planter and colony. Let us take for illustration Barbadoes during the middle and latter half of the seventeenth century. This island was first cultivated in small tracts, of about ten acres, by white labor,—poorer tenant settlers and indentured servants. Tobacco was the principal crop. Under such methods of cultivation there was no necessity for large capital, and no place for the factor. Such people had no need of a line of credit for securing slaves, and they made no London purchases of household luxuries and fine apparel. Somewhere about 1640 to 1650 (the exact date is both uncertain and unimportant) a few of the larger Barbadian proprietors began to experiment with sugar cane,—apparently under the stimulus of their observations during a visit to Brazil. As soon as it was seen that cane could be grown successfully, the white cultivator began to disappear from Barbadoes, his small holdings were absorbed into large estates, and the English factor and the African slave became the dominant economic forces in the island. It was here that negro slavery gained its first substantial foothold as an economic institution among English-speaking people.

Whether or not sugar could have been grown by white labor is beside the question. Movements, like individuals, are not controlled so much by what may be true as by what is believed to be so,—and, as slave labor was considered a necessary incident to sugar growing in Brazil, it was immediately so held in Barbadoes. England wanted sugar, and she wanted

the business of carrying the crude product, as well as of refining and selling it. As soon as it was discovered that Barbadoes could produce the raw article, the capital needed for acquiring the necessary land, labor, and machinery was found without difficulty. It was ready at hand in London. Robert Disset, in his history of the slave trade, quotes the words of a disquisition published in 1659 on the great wealth which England was drawing from Barbadoes: "Upwards of one hundred sail of ships there yearly find employment, by carrying goods and passengers thither, and bringing thence other commodities; whereby seamen are bred, and custom increased, our commodities vended, and many thousands employed thereon, and in refining our sugars at home which we formerly had from other countries; and all this out of that very small, dry and rocky island."

Such was the vision of wealth created by the sugar planter, the slave and the factor before the end of the Seventeenth century. But what of the future? We have only to recall the picture of Barbadoes which a later century furnished. The island densely populated with negroes, the soil destroyed and barely able to support those living upon it, the sugar industry a memory and the planter a bankrupt. The only individual concerned whose wealth proved more substantial than paper, was the factor. The planter borrowed from the factor sufficient funds to begin operations. This was possibly enough to cover part of the purchase price of land, some crude machinery, and other equipment. It was not long before a slave-trading agent established headquarters on the island. Between him and his principals in London or Liverpool, and the planter and his factor, the purchase of the necessary labor was easily arranged. The first crop was pitched on capital borrowed at a

high rate of interest, with the confident expectation, by all, that the first year's profits would pay for everything. Whether this proved true or not, the final outcome was usually the same. The planter either renewed his old balance, if he failed to pay, or made a new loan if he discharged the first. In either case, he enlarged his operations to the limit of his ability, and steadily increased his hazard, until finally ruined by a single particularly disastrous season or by a succession of poor crops or low prices.

The factor's profit was many sided. Firstly, there was the interest on the money loaned. Secondly, there was the commission on purchases for the planter in England. Then there was the commission charged on sugar sold for the planter's account. In addition were the various smaller items of profit,—such as rebates on insurance, storage and handling charges, *et cetera*. What was left was passed up as a credit on the planter's indebtedness, pending the final, and fairly certain, foreclosure of his estate. This was not the record of every British West India sugar planter, but the history of those islands leaves no escape from the conclusion that such was the fate of the great majority.

With various modifying incidents of time and place, the general course of the business of growing the great staples under the combined plantation-slavery-credit-factorage system was the same in the English continental colonies as in the islands. The evil effects of the system were neither as apparent nor as rapid in the former, because of the greater area available for cultivation, and of less absenteeism. But the tendency was the same. By reason of the fact that the planter's credit was based upon the quantity of a given commodity which he could produce, there followed inevitably an unhealthy stimulus to the concentration of his energies upon a single

crop. This might mean a large return, under an occasional combination of good yield and high price, but much oftener it meant an invitation to ultimate disaster, through failure to render the plantation a reasonably self-supporting unit. The requirement that all the product raised be consigned to the factor lodged in the latter too large a measure of control over the operations of the planter, and led to the defeat of normal tendencies of trade in the handling and marketing of the staple crops.

While the Revolution destroyed the business of the foreign factor with the Colonial planter, it by no means destroyed the system. The latter had seriously militated against, if not effectually prevented, the development of financial independence on the part of the planter, and he now merely sought at home the assistance no longer available abroad. The larger merchants and business men of Richmond, Charleston, and smaller centres of wealth had in many cases already established a local factorage business, either for themselves or as correspondents. They simply stepped into a monopoly, now that the foreign houses were shut out, and from the Revolution on down to the Civil War continued the system which had grown into a recognized and necessary adjunct to the business of growing the Southern staples. Because they were nearer at hand than the foreigner had been, their relations with their customers became more personal and intimate,—but so also was their influence more immediately felt. And it is not too much to say that that influence was not exerted in the direction of encouraging those plantation practices and methods which would make toward larger economic independence for the planter. The factor became the business, and frequently the political, ally of the planter, but the effect of the closer relations between the two tended rather to

the deepening of the rut of the system of which they were each a part.

The position of the planter was that of the pioneer. He bore the brunt of the task of clearing forests and draining swamps in the never ending process of extending the confines of the kingdom of cotton, tobacco, sugar and rice. The factor financed the enterprise, but the rewards were not equally divided. The planter got more glory out of it all, more of political honors and social estate, perhaps,—but the substantial and enduring, if somewhat more vulgarly material, part, fell to the factor's share. And in shaping the economic destiny of the ante-bellum South, in the final analysis of history it is not impossible that his may be found to have been, after all, the more controlling hand.

BIBLIOGRAPHY.—Bassett, J. S. (ed.): *The Writings of "Colonel William Byrd of Westover in Virginia Esq."* (New York, 1901); Ford, W. C. (ed.): *The Writings of Washington* (14 vols., New York, 1889-93); Merivale, Herman: *Lectures on Colonization and Colonies* (London, 1861); Phillips, U. B. (ed.): *A Documentary History of American Industrial Society* (vols. I and II, *Plantation and Frontier*, Cleveland, O., 1910); Manuscript material and notes in possession of Dr. U. B. Phillips; Manuscript material and notes in possession of Mr. A. H. Stone; Ms. Letters of William Byrd (1683-91); Ms. Letters of William Fitzhugh (1679-99).

ALFRED HOLT STONE,
Author of Studies in the American Race Problem, etc.

THE INTERSTATE COMMERCE OF THE SOUTH.*

DURING the ante-bellum period the South consisted mainly of a group of staple-producing provinces, more or less commercially isolated from one another because of the character and direction of their natu-

*For additional information see articles, "The Growth of Southern Ports," and "Internal Improvements in the South."

ral facilities for transportation. The problem of each of these areas was to send its staples abroad or to the markets of the Northern states, and to obtain food stuffs and manufactured products from the same places.

No statistical data exists to give us a comprehensive view of the extent to which interstate commerce existed between these staple-producing areas. It is clear, however, that the purely local traffic between the several Southern states was very limited in amount as compared with the period following 1865, and that most of the interstate traffic had its origin in the desire of the interior districts to move their staples to the natural gateways on the Atlantic and the Gulf coasts, thence to be sent abroad or to the North. This desire led to the development of a three-fold system of transportation: (1) an extensive coastwise commerce between the Southern ports, and between these ports and the Northern Atlantic ports: (2) an extensive river traffic, especially in the Mississippi Valley, and (3) after 1840, a railway traffic which by 1860 brought every economic province of the South in railway communication with every other.

Clearly to understand the application of these three forms of internal transportation, it is well to keep in mind the five great economic provinces of the South, at the same time noting their natural transportation facilities. They are:

(1) The region comprising Lowland and Piedmont Virginia, Maryland, and the Albemarle district in North Carolina. Tobacco and cereals constituted the main crops of this district, and the problem was to get these products to the navigable rivers and the Chesapeake Bay.

(2) The Charleston-Savannah coast district, known for its production of rice and sea-island cot-

ton. Abounding in many waterways, the problem of this district, prior to the development of the railway, was to transport these crops downstream to Charleston, Beauport, Savannah, and Brunswick.

(3) The Cotton-Belt extending from the southeastern edge of Virginia to Central Alabama. This district, confined mainly to the Piedmont region, was greatly handicapped in its natural transportation facilities. Its cotton was sent to the coast towns of South Carolina, Georgia, and Alabama on the rivers most accessible, and supplies were obtained partly from across the pine-barrens, and partly by way of the Mississippi, the Gulf, or the rivers of Georgia and South Carolina.

(4) The Western Cotton Belt extending from Alabama to Texas on the South, and to Kentucky on the North. The products of this district found an easy access to market because of the large and numerous navigable rivers which reach out in all directions. Practically the whole region was tributary to New Orleans and Mobile, although numerous subsidiary cities, such as Natchez, Vicksburg, Memphis, Louisville, and St. Louis grew up in the interior as collecting centres for the staple products of the region, and as distributing centres for the supplies received from the coast.

(5) The states of Kentucky and Tennessee, with their products of tobacco, grain, and live-stock. At first Kentucky and the Western half of Tennessee were almost entirely tributary to New Orleans, *via* the Ohio, Cumberland and Mississippi rivers. Later, however, this region, as well as Western Tennessee, was also given a direct rail route to the Atlantic seaboard.

From the foregoing it appears that the transportation problem of all the sections of the South was to reach the Atlantic and Gulf seaboard for its staple

products by using the navigable rivers as much as possible. Since railroad transportation was not an appreciable factor until after 1840, the South, in almost complete absence of large local manufactures, was also compelled to receive its supplies chiefly over the river routes. At the beginning of the century these supplies came chiefly from foreign countries, but certain events transpired which made the South much more dependent upon the North for its supplies, and led to the development of an extensive coastwise traffic. The declaration of the Embargo Act and the dependence of the United States upon domestic manufactures during this period and the War of 1812, led to the development of the cotton manufacturing industry in New England, and thus furnished a basis for a considerable coastwise trade. The tariff acts, enacted after 1808, were also constructed in such a manner as practically to prohibit the importation of cheap cotton and woolen goods and certain other products into the South; and thus the Southern states, instead of buying the larger part of their manufactures from England, were forced to rely upon the Northern states for these supplies. Furthermore, this decline of Southern imports from England compelled the South to ship many of its raw products coastwise to the Northern ports, there to be re-exported. The chief reason for this indirect traffic is found in the fact that owners of vessels, not being able to secure outbound cargoes for the Southern ports, were compelled to charge a higher rate on the return cargo of cotton in order to compensate for the coming in ballast. So important was this factor that it was frequently cheaper to send cotton coastwise to a Northern port and have it re-exported, than it was to send it directly from a Southern port.

While no official statistics are obtainable, by which

to measure this coastwise trade to the North, all evidence shows that it was very extensive. In 1860 it was estimated that New England sent annually to the South about $60,000,000 worth of merchandise, consisting chiefly of shoes, leather goods, cotton and woolen manufactures, fish and molasses. On the other hand it is estimated that the South sent to New England annually about $55,000,000 worth of products consisting mostly of cotton, and to a minor extent of naval stores, hemp, flour, and animal products.

New Orleans always ranked, during the ante-bellum period, as the leading commercial centre of the South. This was partly due to the fact that New Orleans attracted to itself much of the trade of the other Gulf ports intended for re-exportation, but chiefly to the fact that in the western part of the South long distance commerce was confined mostly to the traffic on the large navigable rivers. Flat and packet boats had long been used for downstream navigation, and the use of the steamboat was rapidly extended after 1820, so that while only twenty steamboats were in use on the Mississippi and Ohio rivers in 1813, the number was increased to 200 by 1829. In the absence of adequate transportation facilities between the Atlantic seaboard and the Middle West, due to the failure of attempts at east to west canals in the South, the usual course of nearly all of the trade of the Middle West took the Southern route. The products were floated down the Ohio and Mississippi rivers and exported to foreign countries or sent coastwise to eastern ports *via* New Orleans.

The import traffic to the Middle West, however, continued to come overland *via* the Atlantic ports. The determining factor was the freight charge involved. By 1820, government and toll roads were still the chief means of inland transportation, and

were insufficient for long distance traffic. The freight on a ton of grain from Buffalo or Western Pennsylvania was about one hundred dollars, and it required twenty days to make the trip, *i. e.*, the freight charges on wheat and corn would be respectively three and six times the value of those commodities at New York. It was therefore much cheaper to float grain, flour and cured provisions down the rivers on rafts and flat boats. But on the other hand, prior to the operation of steamboats which made navigation up stream possible, the Middle West found it more expensive to import products overland from the Gulf than from the Eastern seaboard. When after 1811 steamboats began to be operated on the Western rivers, the Western import trade also gradually slipped from the control of the Eastern seaports and centered at New Orleans. It was due to the introduction of steamboats on the Western rivers and the resulting decline of commerce between the Middle West and Eastern seaboard which led to the completion in 1825 of the first great link between the East and West—the Erie Canal—which gave to New York a decided advantage over other Atlantic and Gulf ports as regards both the export and import trade of the Great Middle West. New Orleans, however, continued to grow absolutely, although relatively she was losing ground as compared with New York. Despite the opening of direct canal and railway connections between the Middle West and the Eastern seaboard, New Orleans continued to share in the movement of those raw crops and milled breadstuffs whose great bulk demanded the cheapest rate of freight. In 1842 her receipts of these commodities from the interior amounted to over $45,700,000 in value; in 1843 to over $52,700,000; in 1844 to $60,000,000; in 1846 to over $77,000,000; and in 1850 to nearly $97,000,000.

Following 1840 the interstate traffic of the South began to assume a new form in so far that the various isolated economic districts, heretofore chiefly dependent upon water transportation, sought to overcome their natural barriers through the extension of railway communication. Each section sought to obtain as much of the interior trade of other sections as possible, and by diverting traffic from other ports to increase its importance as a centre of trade.

Charleston was the first port to begin this movement. It had long been noticeable that, owing to the westward movement of cotton production, Savannah, Mobile, and New Orleans were growing prosperous at her expense, because of their natural advantages. Charleston, therefore, at once built a railroad to Augusta with the object of diverting the traffic from the interior of Georgia away from Savannah, thus depriving that port of its natural advantage in river communication. Savannah, however, at once took alarm and constructed the Central of Georgia Railroad to Macon, and the state of Georgia later extended this line as far North as Chattanooga. This action on the part of Savannah resulted not only in making the South Carolina railroad a mere annex to the Georgia railway system, to the detriment of Charleston, but also lessened the cotton receipts of Mobile and New Orleans. In turn these ports were spurred on to undertake railway construction to the North.

All of the chief ports of the South were thus reaching out with railroads for the trade of the interior cotton belt, and it was not long until Charleston, Savannah, Mobile, New Orleans, Baltimore, Richmond, and Norfolk each had its special railroad. At the same time a railway line was constructed parallel to the coast, extending from Washington through Richmond, Raleigh, Augusta, and Montgomery to

Mobile and New Orleans. The Shenandoah-Tennessee Valley, the most handicapped of all the economic provinces of the South as far as transportation was concerned, was also connected on the one hand with the Northeast and on the other with the coasts of Virginia and the Southwest.

In the short space of twenty years the South succeeded in constructing over 10,000 miles of railway trackage, and by 1860 every province of the South, east of the Mississippi, had been placed in railway communication with every other province. But it must always be remembered that this skeleton railway system of the South was not constructed with the view of diversifying production and bringing about the economic self-sufficiency of the South. Instead, the construction of railroads only resulted in the extension of the plantation system and increased greatly the output of Southern staples. Competition between the several ports was greatly increased as regards the receipt of the staple products. It also appears that all of the seaports of the lower South in trying to reach the Northwest traffic through the medium of railroads had grossly miscalculated. When the lines to the West and North were completed, freight, it is true, began to move southward in greatly increased quantities, but a large proportion of the western products found a market in the cotton growing belt and never reached the Southern seaports.

BIBLIOGRAPHY.—Bruce, Philip A.: *The Rise of the New South* (Vol. VII of *The History of North America*, Philadelphia, 1905); Butler, Mann: *History of Kentucky* (Cincinnati, 1836); Collins, R. H.: *History of Kentucky* (2 vols., Covington, 1874); DeBow, J. D. B. (ed.): *The Industrial Resources, etc., of the Southern and Western States* (4 vols., New Orleans, 1852-53); Hammond, M. B.: *The Cotton Industry* (New York, 1897); Ingle, Edward: *Southern Sidelights* (New York, 1896); Martin, W. E.: *Internal Improvements in Alabama* (*Johns Hopkins Univ. Studies*, XX, iv, Baltimore, 1902); Phillips, U. B.: *History of Transportation in the Eastern Cotton Belt to 1860* (New York, 1908): Reizenstein, M.: *The Eco-*

nomic History of the Baltimore and Ohio Railroad, 1827-53 (*Johns Hopkins Univ. Studies*, XV, vii-viii, Baltimore, 1857); Rutter, F. R.: *The South American Trade of Baltimore* (*Johns Hopkins Univ. Studies*, XV, x, Baltimore, 1897); Waring, George E.: *History and Present Condition of New Orleans* (in *Tenth Census* of the United States, 1881); Weaver, C. C.: *History of Internal Improvements in North Carolina* (*Johns Hopkins Univ. Studies*, XXI, iii-iv, Baltimore, 1903).

SOLOMON S. HUEBNER,
Professor of Insurance and Commerce,
University of Pennsylvania.

THE GROWTH OF THE SOUTHERN PORTS.*

The Rise of the South Atlantic Ports (1607-1803).—In colonial days, the Southern ports under English rule were confined to the Atlantic seaboard. They were often situated some miles above the mouths of rivers, but not too high up to accommodate the small ocean-going sailing craft of that period. The ports which became important, generally either superseded older ones or developed at sites other than those originally selected. Each colony had at least one port and sometimes several, although then, as now, one usually stood out preëminently as a centre of the shipping industry. Maryland contained besides Baltimore, St. Mary's and Annapolis, both antedating Baltimore, which was not laid out until 1730. Later on Georgetown on the Potomac became important. In Virginia there was first of all Jamestown, from 1607 to its final destruction, the James River entrepôt. Then developed Williamsburg, Fredericksburg, Norfolk, Alexandria, and Richmond, on whose present site, as early as 1679, William Byrd had built a warehouse. But for a number of

* For additional information see articles, "The Interstate Commerce of the South," and "The Merchant Marine of the South."

years Virginia, the oldest and wealthiest colony, despite favorable legislation, had no port of importance and no large towns. This was due chiefly to "stores" on every navigable stream and to the custom of settlers to ship their produce from their own wharves and in vessels they owned or chartered. North Carolina by reason of its hazardous coast never possessed large cities, but at this period contained Edenton, Beaufort, Newbern, and Wilmington, founded between 1730 and 1735, on the Cape Fear River and in the centre of a section that traded with Charleston and Barbadoes. The commerce of the Albemarle region went to Virginia. Charleston, South Carolina, built on its present site in 1680, grew through trade and immigration into the most important port of the South and one of the largest cities in America. Less important South Carolina ports were Beaufort and Georgetown. In Georgia, Savannah was founded in 1733 and later on Augusta, Darien, and Brunswick which was not to assume importance until after the Civil War.

Excepting Baltimore and Charleston, the progress of these ports was not rapid nor was their population considerable, in spite of a trade with the mother country and the West Indies which for some years exceeded that of the Northern colonies. Baltimore by reason of its advantageous position on the Chesapeake Bay, soon built up a good trade with both the West and the South as well as across seas, and by various accessions to its original population through immigration or the extension of its municipal limits, gained rapidly over its nearby competitors. Of all the colonial ports, however, Charleston stood in a class by itself. Cut off from the rest of the country by a vast stretch of uninhabited territory, it developed its own life and characteristics, more nearly resembling a West Indian community than one on

the North American continent. Over its wharves were shipped large quantities of rice and indigo, which constituted its chief exports, just as tobacco, foodstuffs, and forest products made up the bulk of shipments from North Carolina, Virginia, and Maryland ports. In Savannah in 1744 a partnership, composed of Charles Harris and James Habersham, began to do a commercial business which was to promote trade relations between that port and Great Britain.

Imports at most of these ports embraced manufactured articles, slaves, and plantation supplies. Later on, cotton, sugar, and naval stores were added to the exports. Notwithstanding the high favor in which the Southern colonies were held by Great Britain, the enforcement of the Stamp Act met with open hostility at all their leading ports. Those that were not occupied by British troops, suffered from the general demoralization caused by the Revolution and underwent various vicissitudes under the Articles of Confederation. All felt the good effects of the new constitution. The census of 1790 in its enumeration of Southern towns included ports only. Of these Baltimore then had 13,503 inhabitants; Richmond, 3,761; Charleston, 16,359; and Savannah, 2,300. No town in North Carolina had a population exceeding 2,000. Nashville on the Cumberland River numbered 500 souls; Louisville on the Ohio, 200.

The Rise of the Gulf and Western River Ports (1803-1865).—By the purchase and annexation of territory the original South Atlantic ports were increased by the addition of ports which the Spaniards had owned on both coasts of Florida, and by Mobile and New Orleans. St. Augustine dates from 1565. Mobile, founded in 1702 by Iberville, an agent of Louis XIV, was the centre of French influence in the Southwest until Bienville in 1718 began the

foundation of New Orleans persuaded that it was destined to become the metropolis of a great colony. On Galveston Island, Lafitte, the pirate, maintained his abode until dislodged in 1821 by the United States. On the admission of Texas in 1845, its various ports became American. While the port of Galveston was settled in 1837, and incorporated two years later. Founded in 1822 and named in honor of the "hero of New Orleans," Jacksonville, Florida, was destined to become a great lumber and cotton port as a result of improvements in the St. Johns River.

Anthony Crozat, John Law, and other adventurers enjoying trade monopolies granted by the French government, established trading stations or forts on the Alabama River, where Montgomery now stands; at Natchitoches on the Red River; on the site of present Natchez, which became one of the most important towns on the Lower Mississippi; and on one of the Chickasaw Bluffs near the Memphis of to-day. In 1764, a Frenchman, the moving spirit in the Louisiana Fur Company, which had been granted a monopoly of the fur trade with the Indians of Missouri, laid out St. Louis. Shortly afterwards New Madrid and St. Genevieve were established.

These and numerous other river ports that were not American became so on the purchase of Louisiana, developing rapidly when our government acquired sole control over the Mississippi River. Their growth both as to size and number was further accelerated on the introduction of steamboats and the admission into the Union of states like Alabama, Mississippi, and Arkansas and the railroad development that accompanied their advance to statehood. Among these newer ports were Vicksburg, founded in about 1826, on the Mississippi River near its confluence with the Yazoo.

In what is now West Virginia, trade centers arose on the Ohio and its tributaries. This general progress was shared in by Mobile and New Orleans, the entrepôts of the lower Middle West and Southwest. The growth of Mobile was phenomenal, although temporarily checked by the panic of 1837. Because of its large foreign population New Orleans more nearly resembled New York than any other Southern port. It received large shipments of cotton, grain, and other commodities both by river and rail. Meanwhile, for reasons partly economic and partly historic, the South Atlantic ports, with the exception of Baltimore which now far surpassed Charleston, were outdistanced by their Northern competitors. This happened in spite of the fact that in 1819 it was from Savannah that the first steamship crossed the Atlantic, while Charleston once enjoyed the distinction of having the longest railway in the world. Conventions held at various points urged for years direct steamship lines connecting the Southern ports with foreign countries, but without avail. Although commercial, the South owned a few ships.

Shortly after the outbreak of the war all the ports of the seceding states were blockaded by the United States, and they practically remained so until hostilities closed. While from some of the Southern ports—notably Wilmington, Charleston, and Mobile—the bluish white vessels employed as blockade runners kept up some sort of communication between the South and the rest of the world, the closing of the gateways of the Confederacy proved a most effective weapon in the hands of the Federal Government, and one by one the Southern ports fell into the hands of the United States.

Bibliography.—Bruce, P. A.: *The Rise of the New South* (Philadelphia, 1905); DeBow, J. D. B. (editor): *The Industrial Resources, etc., of the Southern and Western States* (New York, New Orleans, 1852-53); Eagle, E.: *Southern Sketchbook* (New York, 1856); Lanier, J. J.:

Cyclopedia of Social and Political Science (3 vols., Chicago, 1881-1883); Powell, L. P.: *Historic Towns of the Southern States* (Philadelphia, 1900); Woolsey, T.: *International Law* (New York, 1894); *A Century of Population Growth in the United States 1790-1900* (Bureau of the Census, Washington, 1909); *List of Countries and Ports* (London, 1909); The *Shipping World* Year Book (London, 1909)

BURR J. RAMAGE,
Bureau of Corporations, Washington, D. C.

VALUE AND EXCHANGE.

REAL AND PERSONAL PROPERTY VALUES IN THE ANTE-BELLUM SOUTH.

SEVENTY years before the American Revolution, Maryland, Virginia, and Carolina furnished a large proportion of the entire exports of the colonies to England. As late as 1775 the exports of Virginia are stated to have been worth £758,365, and those of Carolina, £579,349. The imports of Virginia and Maryland in that year were valued at £1,921, and those of Carolina at £6,245.* These conditions indicated the flourishing state of the Southern colonies, whose chief forms of property were lands and negro slaves, and whose chief pursuit was that of agriculture.

The property held by the North and the South in the United States was each about four hundred millions of dollars in value as estimated by an assessment for direct taxes in 1799. According to assessments made by authority of the United States government in 1815 for direct taxes, the value of property of all kinds in the Southern states had risen to $859,574,697, as against $1,042,782,264 in the North. Even in manufactures, by 1810, the South, as respected its comparative population, excelled the North in per capita production. The returns of the Federal marshals for that year show that the South manufactured 34,786,497 yards of wool, cotton, and

* DeBow, *Statistical View of the United States* (Compendium of the Seventh Census), 184.

linen fabrics, valued at $15,771,704, as against 40,344,274 yards manufactured by the North, and of an estimated value of $21,061,525.

The products of commerce and manufactures constituted up to this time important factors of the property and wealth of the Southern states, though these industries were, from the beginning to the end of the slavery régime, inferior to the factor of agricultural products drawn from lands and slave labor. But the development and operations of protective tariffs on the one hand, the invention of the cotton gin and the consequent growth of cotton planting on the other, and a dependence on negro labor, tended to withdraw the South relatively from commerce and manufacturing, and to concentrate its attention upon and intensify its devotion to agricultural pursuits. Of the four great articles, most necessary then as now to modern civilization, which are produced by agriculture, namely: sugar, coffee, cotton, and tobacco, the South produced all but coffee in great abundance, while it added a fifth, rice, scarcely less important. In spite of the comparative decadence of Southern commerce at this time, T. P. Kettell, writing in DeBow's, *The Industrial Resources, etc., of the Southern and Western States,** approximates the aggregate value in 1849 of the exports of Southern cotton, tobacco, rice, naval stores, sugar, and hemp as $85,738,779, while the value of the total exports of this year was but $145,755,820. Thus a large proportion of the exports from the United States were then the products of slave labor on the slave lands of the South. The home consumption of these same staples raised the total value of their production to $138,689,297.

In addition to these, provisions embracing flour,

* Volume III, 42, cf. *Ibid.*, 387.

pork, bacon, lard, beef, and corn were exported to foreign ports direct from New Orleans, and these were purchased from the Northwestern country by an equal value of sugar, tobacco, and cotton, which were sent up the river.

Of the great agricultural crops common to the whole country, in 1850, the corn crop of the United States was worth $296,035,552. The South produced of this crop, 346,911,959 bushels, and the rest of the country but 245,159,145 bushels. The next most valuable crop, wheat, was valued at $100,485,944, and of this crop the North and West produced 73,057,659 bushels, and the South but 27,428,285 bushels The hay crop in 1850 in the United States was worth $96,-870,494; and the North and West produced 12,728,-638 tons of hay, while the South raised only 1,110,004 tons.*

By the census of 1850 it is shown that of the total improved acres of land in the United States, aggregating 113,032,614, there were in the fourteen Southern states and the District of Columbia 54,310,732 as against 58,721,882 in the seventeen Northern and Western states and four territories; and that the total cost value of farms was $3,271,575,426, of which the value of farms in the Southern district mentioned was $1,004,746,633, and of farms in the Northern and Western district above was $2,166,828,793.†

The statistics of the census of 1850, and the Report of the Secretary of the Treasury on Commerce and Navigation for 1857, demonstrate that in the decades immediately preceding the War between the States, the South had a greater value of agricultural products, of farming utensils, of live stock, of slaughtered animals, and of real and personal property, in proportion to its population, than the North had.

* *Census of the United States, 1850*, lxxxii, lxxxiii.
† DeBow, *Statistical View of the United States*, 169.

In spite of its great wealth in agricultural products, the chief and most important kinds of property in the South continued up to 1861 to be real and personal property in the form of lands and slaves. The amount of private property of all kinds in the Southern states was, proportionately to population, greater than in the states of the North or of the West. The estimated true value of property per capita for the Southern states at the beginning of the War between the States was $560 as against $487 in the free states, and $497 in the border states. "Even the eleven states east and north of the Potomac," says Spahr in his *An Essay on the Present Distribution of Wealth in the United States,* "had less property per family than the eleven states which seceded."

In 1860 the number of slaves in the United States, chiefly in the Southern states, though there were some slaves in the border states, was 3,953,587. The owners of these slaves numbered 384,884.*

The distribution of the ownership of real estate in the South at this period, followed and, in a large measure, corresponded with the distribution of slave property. The Southern states contained about four times as many farm holdings worth over $5,000 each as did the Northern states, and one hundred times as many farm and plantation holdings worth over fifty thousand dollars each.

For three decades prior to 1861 the Southern states were the richest section of the Union in the

* The following table, taken from Spahr, *An Essay on the Present Distribution of Wealth in the United States,* 31, note 2, gives the distribution of slave property according to the United States census of 1860:

Persons with one slave	77,333
Persons with 2 slaves	46,165
Persons with 3 to 5 slaves	88,116
Persons with 6 to 10 slaves	65,278
Persons with 11 to 19 slaves	61,710
Persons with 20 to 49 slaves	35,623
Persons with 50 to 99 slaves	8,367
Persons with 100 to 299 slaves	2,208
Persons with 300 to 499 slaves	74
Persons with 500 to 999 slaves	13
Persons with over 1,000 slaves	1

general possession of real and personal property, but the distribution of this wealth was far less general than in the other sections of the country.

Bibliography.—DeBow, J. D. B.: *Statistical View of the United States* (Washington, 1854) and (ed.) *The Industrial Resources, etc., of the Southern and Western States* (4 vols., New Orleans, 1852-53); Fisher, Ellwood: *Lecture on the North and the South* (Charleston, 1849); Herbert, Hilary A.: *Why the Solid South? or Reconstruction and Its Results* (Baltimore, 1890); Spahr, C. B.: *An Essay on the Present Distribution of Wealth in the United States* (New York, 1896); United States Censuses to 1860.

Armistead C. Gordon,
Rector of the University of Virginia.

THE EFFECT OF THE CIVIL WAR UPON REAL AND PERSONAL PROPERTY VALUES IN THE SOUTH.

The history of public debts discloses the cost of war to the governments that wage it;—a cost that must ultimately be borne by the people. But the debt that the conqueror has incurred in winning his victory is usually very much less than the losses which the vanquished people sustain. "The United States Civil War cost the victors no less than $450,000,000," quotes Henry C. Adams in his *Public Debts*. From the circumstances of the conquest of the Southern Confederacy, its obligations did not survive as a public debt, but were losses to its creditors, and there is no adequate record of the almost incomparable property loss and damage which the war inflicted upon the states composing it. The experience of a single Gulf state might well serve as an illustration of what happened to all of them. Alabama had lost of her citizens during the war, including those disabled, more than 25,000 men. It was a loss that exceeded 20 per

cent. of her bread-winning population. The labor force (representing both capital and labor) which had cultivated the fields and maintained the people of the state, had been disorganized and practically destroyed. Thus an extraordinary and almost unparalleled social condition, where there could be no conflict between capital and labor because the owner of one was the owner of the other, was overthrown and totally wrecked. People who were absolutely unaccustomed to physical work found themselves in the toils of an extreme and paralyzing poverty. Helpless women, with yet more helpless children to support, were left without means and in privation; while their fathers, husbands, brothers, or sons slept in soldiers' graves. The credit system, which had generally prevailed, perished. The food-crops that the farms of the state produced, cultivated by negroes under the direction of women, had gone to feed alike the armies of aggression and of defence. The horses and mules used in planting and farming had finally vanished in the insatiate maw of the monster, war. The negroes fled from the country sections; and invading the towns, added to the vexed problems of those temporarily in authority. To cap the pathetic and perilous climax, with the last year of the war a drought descended upon Alabama; and in 1865 only an estimated one-fifth of the usual cereal crops of the state was made.

As was the property loss in the state whose name had led the roster of the Southern commonwealths, and within whose borders the Confederate government had first established itself, so in varying degree was it in the other states of the South. In Georgia, the emancipated slave, unyoked from his plow-fellow, capital, listened with confused understanding to the announcement that he was a free man, and hurried incontinently and aimlessly to the

town. There was no money. There was no credit. All that survived of the former credit-system, upon which the farmer and the planter and the merchant had conducted business even in the prosperous era preceding the war, was the unpaid debts of that vanished era. The banks were closed. The treasuries of county and municipal governments were empty. The Confederate currency represented no value. The state "shinplasters" were without monetary significance. The bank-notes and the county and town "promises to pay" were not worth the poor, pathetic paper they were printed upon. There was neither gold, nor silver, nor "the blood-stained greenback" of the conqueror in sight. All that remained of pecuniary value was the cotton, stored up against an evil day, which the blockade had kept from Europe, and which was now sought with relentless rapacity by the army officers and treasury officials of the Federal government. The echoes of "Marching through Georgia" lingered about the yet unslacked ashes of devastated and destroyed cities, and hung over great tracts of country that had been made a desert. The courthouses were abandoned, and there were no laws. Colleges and schools were closed, and the children had no teachers; nor yet did the teachers have pupils. The public charitable and eleemosynary institutions were unable, even at an utmost sacrifice, to care for their helpless and needy inmates. Thousands of old men, women, and children were without the means of subsistence; and winding its way like a red ribbon through the state, from Tennessee to the city of Savannah, the track of "Sherman's March" showed a mass of destroyed property—buildings, live stock, machinery, and stores like cotton—within an area twenty miles in width. The tremendous destruction of property in Georgia

may be imagined from the brief statement that in 1860 the taxable property of the state was worth $672,322,777; while in 1870, five years after the close of the War between the States, though again slowly crawling upward, it had only reached the value of $226,329,769.

In Arkansas the people's desolated homes were without furniture, and they themselves were utterly impoverished. Fencing was destroyed, the fields laid waste, the dwellings and outhouses in many cases burnt; the stock carried off, and such a general condition of social and economic depression prevailed as has been described in the commonwealths above.

In Virginia, the eastern part of the state was a series of battlefields, where the plow had long ceased to turn the loam in the furrow, and the wheat and corn had forgotten to grow. In the Shenandoah Valley that had been "the granary of the Confederacy," the whirlwind of invasion had destroyed alike dwellings, barns, fences, agricultural implements, cattle, stock, and seed corn, until the famous order had come to be literally obeyed, that its devastation should be such as to force "the crow travelling over it to carry his own rations."

The effect of the war upon property values in the South to 1865 spelled in glaring letters, Destruction and Ruin. Real estate had been converted into battlefields and wildernesses, and smoking ashes; the slaves had been emancipated, without compensation; commerce had been completely blotted from the ocean by an effective blockade; and personal property of every description had been destroyed, deportated, or rendered comparatively valueless.

What was true of Virginia, the chief sufferer, was true only in less degree of the whole South, save Texas; and it is no exaggeration to say that

in nearly every Southern state a literal reproduction, recreation, and restoration of practically all property values was necessary after the war had come to its ruthless and overwhelming end.

BIBLIOGRAPHY.—Gordon, Armistead C.: "Hard Times in the Confederacy" (in the *Century Magazine* for September, 1888, Vol. XIV); Adams, Henry C.: *Public Debts: An Essay in the Science of Finance* (New York, 1893); Herbert, Hilary A.: "Reconstruction in Alabama," Turner, H. G.: "Reconstruction in Georgia," and Fishback, W. M.: "Reconstruction in Arkansas," in *Why the Solid South? or Reconstruction and Its Results*, edited by Hilary A. Herbert, Baltimore, 1890); Spahr, C. B.: *An Essay on the Present Distribution of Wealth in the United States* (New York, 1896); Waddell, Jos. A.: *Annals of Augusta County, Virginia* (2d ed., rev. and enl., Staunton, Va., 1902); Scott, W. W.: *History of Orange County, Virginia* (Richmond, 1907).

ARMISTEAD C. GORDON,
Rector of the University of Virginia.

FLUCTUATIONS IN AGRICULTURAL PRICES AND WAGES IN THE SOUTH.

THE fluctuation of the prices of the products of Southern agriculture during the period before 1861, when war conditions became the all-determining factor, was due in the main to well-recognized conditions, such as are characteristic of developing countries in the stage of advancement then prevailing at the South. The South included a vast area of land suitable for agriculture, much of it of a high degree of fertility and well supplied with waterways in connection with which steamboat navigation and supplemental wagon roads had their normal development. A notable circumstance was the fact that the settlers did not encounter progressively increasing difficulties of transportation but that, taking the general course of settlement westward, they came to one southward flowing river system after another

well suited to carry their products cheaply to market. The ultimate establishment of American control over Louisiana and Florida was a political fact of first rate significance in this connection.

The methods of culture in the South were extensive and so continued with relatively small change. Compared with the investment in slaves and livestock the investment in buildings and other fixed improvements—hostages to intensive culture—were small. The amount of land held by the average owner was so much larger than the acreage he cultivated at one time that worn out fields could be abandoned for fresh fields without the necessity of change of methods or of residence for many years together; while those who had the impulse or the incentive to move found abundant cheap fresh lands in the West. So the area under cultivation increased without raising the margin of cultivation. Indeed the margin must have decreased somewhat with the improving transportation system.

The main dependence was upon one crop for market,—cotton generally, with crops like tobacco and sugar cane and rice in restricted areas of special suitability. Cotton and tobacco found their price-determining markets abroad and in the North. Sugar and molasses were marketed in the United States in competition with imported foreign supplies. Other products, cereals, vegetables, animals for food or for draft, were incidentally raised for home supplies and a local market.

Though there was an increasing cotton area and multiplying crop there was a developing demand. It came directly from the mill operators but ultimately from the consumers of cotton fabrics, as, with the improving quality and variety of product and the decreasing cost of manufacture, a demand was awakened for these fabrics in place of other fabrics, and

for uses that other or more expensive fabrics could not serve.

But the market was essentially sensitive, and speculative. The demand, elastic for long periods, as the passing years made plain, was inelastic for short periods. There were no data for estimating how many more yards of fabric could be marketed per annum at ruling prices, or how many thousand bales of annual increase would glut the market and impose a loss on the producer. Moreover, the accidents of meteorological conditions alone caused a very considerable fluctuation in the size of the crop from year to year, while the least indication of a rising price above the usual minimum sufficed to bring an increase of acreage and, with a good season, a large increase of crop.

Concerning the amount and prices of cotton, statistics of such reliability have been prepared that a tabular statement of them may be submitted for illustration of the fluctuations to which all products were more or less subject.* With annual price fluctuations not infrequently exceeding twenty per cent. (due to the coincidence of large acreage and good season) there has been an increase of the crop that has been almost uninterrupted, though at irregular rates, as is shown by a comparison of the average crops for periods of convenient length, say five years. The price shows even greater annual fluctuations. But the average price for the five-year periods shows less steadiness, though its general tendency is downward. Indeed the decade from 1841 to 1850 was a period in which it is understood that most cotton planters were in unusual straits; and in the next decade prices fluctuated about a higher average. While exact estimates of the

* See tables, pages 431, 432, note.

planter's costs are difficult to obtain, the most reliable computations accord with the general impression prevailing that, with cotton at ten cents in New York, and an allowance of a little over four cents for the costs of marketing after ginning, there was a margin sufficient to leave some profit to the planter over the costs of production. But even during this period of low prices the crop went on increasing. Presumably this was in some measure due to the inability to divert lands and slaves quickly to other uses. But it must have been due also to the coming of other lands into cultivation on low margins and to the speculative hope of an improved market.*

Bewildered in the effort to calculate the future by conditions concerning which they could not get definite information, and frequently alarmed by the small margin between costs and prices, the Southern planters often turned to the general government for more certain information concerning the acreage and size of the crop, and concerning its consumption and the possibilities of the market abroad. Notable instances of response are Secretary Woodbury's report on cotton in 1835 and Mr. Claiborne's in 1856, and similar reports on tobacco and sugar made by government officials in response to resolutions of Congress.†

In general the conditions were those of the production of crops for unsteady but developing world markets with prices adjusted to the foreign demand for a determining, and indeed much the larger, part of the product, and with settlements made chiefly by the importation of goods, and by expenditures

*Hammond, *Cotton Industry*, 118; *Year Book*, U. S. Department of Agriculture, 1897, 596.

†H. Ex. Doc., Vol. 3, No. 62, 21st Cong., 2d Sess.; Ex. Doc., No. 141, 24th Cong., 1st Sess.; H. Doc., Vol. 4, No. 235, 27th Cong., 2d Sess.; H. Doc., Vol. 4, No. 173, 28th Cong., 1st Sess.; S. Doc., Vol. 7, No. 35, 35th Cong., 1st Sess.; H. Reports, Vol. 4, No. 810, 30th Cong., 1st Sess.

made abroad at the order of planters. So when the tariff was high and the market falling, the Southern planter could scarcely escape paying a good share of the toll.

The wages problem did not appear in the form generally understood by the phrase. Speculating on the probable prices of the crop and estimating how much a slave could produce per annum and for how many years he might be expected to work as an able-bodied hand, the calculating planter had to consider whether the slave would return his first cost with maintenance and interest, allowing also for his support in old age or the proceeds of his sale in depreciated condition. More of the product than is commonly understood was raised on small parcels of land cultivated by the owners and their families with the supplementary labor of a very small number of slaves, owned or hired. While there were some free white laborers for wages in agriculture, the opportunity to acquire land or take up other occupations made this element a negligible factor in the determination of the labor costs of production.

What has been said of cotton prices specifically is true also in the main of the prices of other agricultural products. General causes, like the embargo and the war with Great Britain, affected all products, but those like flour and cotton diversely. Taxation, foreign competition, and the opening of new fields of production influenced different articles diversely as to time and degree. Three results are observed: a certain degree of independence in price fluctuations; a general tendency of prices to decline until the middle of the century followed by one to react somewhat; and finally a wider range of annual price fluctuations which had to be taken into account by those concerned with the products. The consumer of food, clothing, and luxuries had his ever-

present remedy in a self-denying refusal to consume when prices were high. But the producer and the man who bought to sell again, or to manufacture and sell, had to take risks that would increase in proportion to the necessary lapse of time between investing in the article and realizing on his investment.

The quotations obtainable are generally not those of the local market, but of a remote and wholesale market; and there is no means of analyzing them so as to distinguish the price paid to the agricultural producer from the costs of marketing and the profits of dealers accumulated later. They, however, serve very satisfactorily the one purpose of illustrating the range of fluctuations.*

*Prices of six agricultural products, 1795–1834, compiled by John Haywood from the highest wholesale prices quoted from the *Boston Commercial Gazette* in American Almanac, 1838, p. 101.

Year.	Flour. bbl.	Rice. cwt.	Cotton. lb.	Tobacco. cwt.	Sugar. cwt.	Molasses. gal.
1795	12.00	7.00	.33	6.87	14.00	.60
1796	16.00	8.00	.30	7.00	13.16	.62
1797	10.00	4.00	.30	9.00	16.00	.68
1798	7.00	2.25	.36	12.00	15.50	.56
1799	10.00	3.00	.36	10.50	16.00	.50
1800	10.00	4.50	.40	5.00	14.00	.48
1801	13.00	7.00	.30	5.50	14.00	.56
1802	9.00	4.75	.25	7.50	15.50	.36
1803	7.00	6.25	.19	7.25	13.00	.42
1804	7.75	5.50	.18	8.50	13.00	.54
1805	13.00	6.50	.25	8.00	14.50	.40
1806	7.50	5.25	.23	7.50	12.00	.38
1807	8.25	5.25	.21	8.50	11.50	.41
1808	6.00	3.25	.17	8.00	12.00	.50
1809	7.50	3.75	.17	7.00	13.50	.52
1810	8.25	4.00	.16	8.00	12.50	.48
1811	10.50	3.50	.15	6.00	14.00	.54
1812	10.75	4.75	.11	6.00	12.50	.52
1813	13.00	7.00	.18	5.00	15.50	.75
1814	14.50	7.00	.27	6.50	18.50	.85
1815	9.25	3.63	.20	7.00	16.00	.75
1816	7.37	4.75	.30	20.00	17.50	.57
1817	14.75	7.25	.27	13.00	14.50	.53
1818	10.25	6.75	.32	12.00	14.00	.54
1819	8.00	6.25	.25	12.00	16.00	.50
1820	5.37	3.50	.16	7.00	10.00	.34
1821	4.25	3.25	.14	6.00	11.00	.28
1822	7.00	3.50	.18	6.50	12.50	.32
1823	7.75	3.75	.11	10.00	12.00	.28
1824	6.62	3.75	.16	10.00	10.00	.27

[*Footnote continued on page 432.*

TOTAL CROP OF COTTON IN THE UNITED STATES.*

Year Ending August 31.	Average in 1000 Bales.	Maximum in Year.	Maximum in 1000 Bales.	Minimum in Year.	Minimum in 1000 Bales.
1791–95	23.0	1795	36	1791	9
1796–1800	81.0	1800	156	1796	44
1801–05	245.0	1805	281	1801	211
1806–10	322.4	1809	366	1808	272
1811–15	305.6	1815	364	1811	269
1816–20	513.8	1820	606	1818	448
1821–25	732.8	1825	892	1823	621
1826–30	929.0	1826	1121	1828	721
1831–35	1110.8	1835	1254	1832	987
1836–40	1625.0	1840	2178	1836 / 1839	1361
1841–45	2024.6	1845	2395	1841	1635
1846–50	2304.2	1849	2867	1847	1779
1851–55	3010.8	1853	3416	1851	2454
1856–60	3777.4	1860	4861	1857	3094
1861–65	Incomplete data.				

Year	Flour. bbl.	Rice. cwt.	Cotton. lb.	Tobacco. cwt.	Sugar. cwt.	Molasses. gal.
1825	5.37	3.75	.20	10.00	11.00	.28
1826	5.25	3.50	.13	9.00	10.50	.28
1827	6.00	3.25	.11	9.00	9.75	.33
1828	5.50	3.75	.11	6.50	9.25	.30
1829	8.00	3.92	.12	4.50	10.64	.30
1830	5.00	3.00	.11	6.00	9.50	.25
1831	7.25	3.62	.10	6.12	9.50	.27
1832	5.62	3.62	.11	5.50	8.40	.27
1833	5.87	3.62	.12½	5.00	10.08	.32
1834	5.50	3.36	.12½	7.00	10.64	.34
Average prices.	8.51	4.61	.20½	8.07	12.83	.44¾

Relative prices of selected agricultural products expressed in terms of 100, assumed as an index number for the price of each article in 1860. *Aldrich Report on Wholesale Prices and Wages*, Sen. Rep., Vol. 3, pp. 104, 106, 107, 52d Cong., 2d Sess.

Year.	Corn.	Cotton. up. mid.	Hemp. rough.	Meat. beeves.	Meat. hogs.	Tobac.	Tobac. Ky.	Wheat.
1840	85.1	83.2	88.	65.8	50.5	94.1	94.1	72.8
1841	103.3	85.5	148.	60.5	54.8	91.2	91.2	61.6
1842	85.1	68.2	80.	57.9	53.3	55.9	55.9	95.6
1843	74.9	78.6	61.	66.2	43.5	58.8	58.8	56.3
1844	71.3	55.5	56.	57.9	59.8	51.5	51.5	70.2
1845	83.6	70.5	56.	82.8	61.	60.3	60.3	71.2
1846	....	85.5	50.4	89.4	61.7	57.4	57.4	92.2
1847	96.7	107.5	88.	98.9	75.9	69.1	69.1	81.4
1848	112.	62.4	92.	86.9	65.5	61.8	61.8	88.3
1849	93.8	97.1	108.	83.1	53.2	79.4	79.4	78.3
1850	95.3	129.5	80.	97.2	61.8	102.9	102.9	76.4
1851	90.9	84.4	72.	118.9	68.2	103.1	77.9	70.2
1852	102.5	93.6	76.	134.	91.2	73.5	82.4	64.2
1853	120.4	98.8	....	114.3	92.4	76.8	92.6	81.7
1854	109.8	86.1	120.	123.2	73.7	78.5	94.1	122.
1855	125.5	91.3	124.	111.5	102.6	73.7	82.4	152.4
1856	99.6	113.3	144.	103.5	92.	124.1	100.	131.2
1857	102.2	143.4	100.	114.2	104.9	174.4	152.9	107.
1858	104.	123.7	88.	96.3	74.2	134.4	82.4	76.2
1859	133.8	106.4	100.	99.1	82.1	100.7	102.9	96.6
1860	100.	100.	100.	100.	100.	100.	100.	100.

*This and the following tables are based on Hammond's Table in *The Cotton Culture and the Cotton Trade.*

TOTAL EXPORTS OF COTTON FROM THE UNITED STATES.

Year Ending August 31.	Average in 1000 Bales.	Maximum in Year.	Maximum in 1000 Bales.	Minimum in Year.	Minimum in 1000 Bales.
1791-95	7.7	1795	28	1792	.63
1796-1800	41.4	1800	79	1797	17.0
1801-05	131.0	1803	158	1801	92.0
1806-10	204.6	1810	373	1808	39.0
1811-15	155.6	1815	302	1814	72.0
1816-20	347.0	1820	484	1816	302.0
1821-25	533.0	1825	617	1821	449.0
1826-30	739.6	1827	854	1828	600.0
1831-35	916.6	1834	1028	1831	773.0
1836-40	1362.4	1840	1876	1839	1075.0
1841-45	1700.2	1845	2084	1841	1313.0
1846-50	1716.8	1849	2228	1847	1241.0
1851-55	2304.8	1853	2528	1851	1989.0
1856-60	3118.6	1860	3774	1857	2253.0
1861-65		Incomplete data.			

TOTAL CONSUMPTION OF COTTON IN THE UNITED STATES.

Year Ending August 31.	Average in 1000 Bales.	Maximum in Year.	Maximum in 1000 Bales.	Minimum in Year.	Minimum in 1000 Bales.
1791-1830	Figures not given.				
1831-35	192.6	1835	217	1832	174
1836-40	255.4	1840	295	1837	223
1841-45	325.2	1845	389	1842	268
1846-50	544.4	1849	642	1846	423
1851-55	684.6	1853	804	1851	486
1856-60	820.0	1860	978	1858	596
1861-65	413.4	1861	844	1864	220

AVERAGE NEW YORK PRICES OF COTTON.

Year Ending August 31.	Average in Cents @ lb.	Maximum in Year.	Maximum in Cents @ lb.	Minimum in Year.	Minimum in Cents @ lb.
1791-95	31.2	1795	36.	1791	26.0
1796-1800	35.6	1799	44.	1800	24.0
1801-05	25.0	1801	44.	1802 1803	19.0
1806-10	18.9	1808	22.	1809 1810	16.0
1811-15	14.9	1811	21.	1812	10.5
1816-20	24.2	1816	29.5	1820	17.0
1821-25	14.68	1825	18.59	1823	11.40
1826-30	10.34	1826	12.19	1827	9.26
1831-35	12.35	1835	17.45	1832	9.38
1836-40	12.43	1836	16.50	1840	8.92
1841-45	7.59	1841	9.50	1845	5.63
1846-50	9.4	1850	12.34	1849	7.55
1851-55	10.8	1851	12.14	1852	9.50
1856-60	11.82	1857	13.51	1856	10.30
1861-65	59.28	1864	101.50	1861	13.01

AVERAGE LIVERPOOL PRICES OF COTTON.

Year Ending August 31.	Average in Pence @ lb.	Maximum in Year.	Maximum in Pence @ lb.	Minimum in Year.	Minimum in Pence @ lb.
1791–95.....	14.85	1792	20.30	1794	12.18
1796–1800.....	16.21	1798	22.45	1796	12.29
1801–05.....	15.4	1801	18.	1803	12.5
1806–10.....	18.04	1808	22.	1807	14.5
1811–15.....	20.48	1814	29.5	1811	12.5
1816–20.....	16.67	1816	20.12	1820	11.5
1821–25.....	8.03	1825	10.10	1822	6.95
1826–30.....	5.85	1830	6.44	1829	5.32
1831–35.....	7.34	1835	9.13	1831	5.38
1836–40.....	6.75	1836	8.79	1840	5.42
1841–45.....	4.66	1841	5.73	1845	3.92
1846–50.....	5.19	1850	7.10	1848	3.93
1851–55.....	5.40	1855	5.60	1852	5.05
1856–60.....	6.7	1857	7.73	1860	5.97
1861–65.....	19.12	1864	27.17	1861	8.50

BIBLIOGRAPHY.—*Aldich Report on Wholesale Prices and Wages* (Sen. Rep., Vols. III-VII, 52d Cong., 2d Sess.) (tables similar to those of this report have been continued at intervals by the Department of Labor in bi-monthly *Bulletins*); Arnold, B. W., Jr.; *The Tobacco Industry in Virginia since 1860* (*Johns Hopkins Univ. Studies*, XV, i-ii); Chew, Morris, R.: *History of the Kingdom of Cotton and Cotton Statistics of the World* (New Orleans, 1884); Dabney, C. W., Jr.: *Progress of Southern Agriculture* (*Circular* No. 3 of the Department of Agriculture, 1895-96); DeBow, J. D. B. (ed.): *DeBow's Commercial Review of the South and West* (39 vols., 1846-1870), and *The Industrial Resources, etc., of the Southern and Western States* (4 vols., New Orleans, 1852-53); Dondlinger, P. T.: *The Book of Wheat* (New York, 1908); Ellison, Thomas: *Cotton Trade of Great Britain* (London, 1886); Holmes, G. K.: *Progress of Agriculture in the United States* (*Yearbook* of the U. S. Department of Agriculture, Washington, 1899); Jacobstein, Meyer: *Tobacco Industry of the United States* (New York, 1907); Kennedy, J. C. G. (Superintendent of the Census): *Agriculture of the United States in 1860* (compiled from the original returns of the Eighth Census); *Hunt's Merchant's Magazine and Commercial Review* (63 vols., New York, 1839-70); Killebrew, J. B.: *Report on the Culture and Curing of Tobacco in the United States* (Washington, 1884); *Production, Growth and Trade of Tobacco*, 1802-41 (Vol. IV, No. 173, H. Doc., 28th Cong., 1st Sess.; *Statistical Abstract*, Annual since 1873, giving prices and quantities of the latest crops and comparative tables for at least a few previous years, compiled from the *Reports* of the various Departments and Divisions; United States Decennial Censuses, 1840-70; Watkins, J. L.: *Production and Prices of Cotton for One Hundred Years* (*Bulletin* No. 9, Dept. of Agri., Statistical Div., 1895-96).

FREDERICK W. MOORE,

Professor of History, Vanderbilt University.

FINANCIAL CRISES IN THE ANTE-BELLUM SOUTH.

Sparsely settled agricultural communities usually tend to be out of touch with money markets and to be undisturbed by crises, because their industry is usually democratic and their employment of capital and credit slight. But in the ante-bellum South, or at least in the plantation districts which largely determined financial conditions for the whole South, the reverse was the case. Relatively little capital, it is true, was invested in buildings, drainage, and machinery; but the investment in land was large, and, more notably, the ownership of labor itself in the slavery régime involved the use of very great amounts of capital and very extensive dependence upon credit. When to these considerations it is added that industry was devoted to the production of staples, mainly cotton, in which the crops and prices were subject to wide and frequent fluctuations, the factors begin to appear which made the ante-bellum South one of the most sensitive of all modern communities to the movements of money and credit.

Slave labor "possessed the power of labor and the mobility of capital." It was to be had by the highest bidder, no matter how remote his plantation; and a heightened valuation of slave labor by any group of substantial employers who wished to increase the scale of their plantations would force a heightened valuation on the part of all of their effective competitors and a heightened capitalization of slave-labor industry in general. When credit was easy and prospects promising, thousands of planters would be eager to buy slaves, and their continued competition in the market would force up slave

prices by successive stages until the straining of credit or the decline of agricultural prospects checked the progress. Meanwhile the cotton-belt planters would have been sending great remittances both northward and eastward, through the slave traders, and abstaining from applying their earnings to any tangible forms of investment save bare lands and slaves. The process here indicated was at times moderate in volume; at other times it waxed into a veritable speculative mania, a " negro fever " as it was called, and was usually accompanied by a rage for speculation in lands as well. Floods of paper money and public credit offered to private borrowers by populistic governments often intensified the speculation and aided in carrying land and slave prices to irrationally high levels. Every bubble, of course, must burst. Usually the immediate occasion for a financial reaction in the South was a contraction of credits in London or New York. If this affected credits only and not commodity prices in which the South was concerned, the Southern reaction would be moderate. But if it caused, or was by any chance accompanied by, a considerable fall in cotton prices, woe to the plantation community. The blight upon the prospects of planters' earnings would prompt creditors to force the settlement of accounts. Simultaneous attempts by hundreds of planters to sell part of their lands and slaves in order to pay their debts and save the rest, would cause a rapid decline of land and slave prices. If the worst came to worst, no planter had " quick assets," and property was liable to severe sacrifice under the sheriff's hammer. Stay-laws and paper money, though often tried, were nearly always futile in checking the disaster; the panic must run its course. At its end, much property would have changed hands, and the

valuation of lands and slaves would have been substantially diminished. Within a twelvemonth or two afterward, however, the same process as before would have begun again, of planters increasing the size of their gangs by buying slaves, first for cash and then more of them on credit. Prices of land and slaves would rise, at first slowly, then faster, and then with speculative acceleration, until another furor of speculation would be upon the community.

The chronology of the ante-bellum South, like that of every other modern capitalistic community, is filled with a succession of industrial expansions and contractions, reflected in the money market by alternating inflations and panics. The prosperity near the end of the colonial period was succeeded by severe depression during the war for independence, and this depression was prolonged by the ruin of the indigo industry which the arrival of peace revealed. Washington, for example, intimated in 1794 that he thought slave property had poor prospects of profits in the coming years. The invention of the cotton-gin, however, altogether changed the outlook, and the first decade of the Nineteenth century saw flush times in the slaveholding communities. These were ended by the war of 1812 but renewed promptly on a greater scale upon the arrival of peace and unhampered trade in 1815. A mania for land and slave speculation ensuing, focussing in the Alabama-Mississippi region, was punished by the panic of 1819, and the decade of the twenties was taken up with a series of similar oscillations on a smaller scale. Peter Baugh, of Talbotton, Georgia, afterward wrote of his own experiences as typical in this period. In one of the boom years about 1820, he bought for $5,000 a tract of land five times as large as he needed for cultivation, bought or hired hands to work it who failed to earn their hire, and

borrowed money at 16 per cent. to pay for provisions to feed his expensive laborers. In 1824 he was forced to close out. His land sold for $1,600; a slave for whom he had previously refused an offer of $1,100 brought $480. After realizing on all his assets, Baugh says he started life anew with a debt of $1,000. The early thirties brought an accelerating wave of speculation, culminating in 1837 with average field hands bringing the unheard of price of $1,300, lands high in proportion, credit universally relied on and dealt in on a huge scale by a multitude of flimsy banks. The world-wide panic of 1837 brought acute distress in the South, as elsewhere, but its ruinous force in the cotton-belt was partly checked by the relative firmness and early recuperation of cotton prices, and partly postponed by virtue of the fact that the several state governments, in the southwest particularly, having loaned the public credit on a prodigious scale, were the chief creditors of their own citizens and were less urgent in pressing for settlement than private creditors would have been.

But this postponement of the day of reckoning only made it the more severe when it came at last in 1839-40. Meanwhile a widely advertised bull movement in the cotton market in 1838-39, led by Nicholas Biddle and his bank at Philadelphia, diverted cotton-belt attention from slaves to cotton for commodity speculation. A great chain of Southern banks in the spring of 1839 offered loans freely on cotton to the extent of about fourteen cents per pound, and loaned enormous sums on that basis to planters who wished to keep their crop off the market. The maximum price of middling cotton at New York in these months was fifteen or sixteen cents. In the summer prices sagged; in September they went below fourteen cents; and they continued re-

lentlessly to decline until in April, 1840, middling was at seven and eight cents. Then after a slight improvement, the downward course was resumed until the spring and summer of 1842 when middling was steadily between six and seven cents at New York, and about two cents below these prices in the interior of the cotton belt. The market was a little more satisfactory during the crop years of 1842-43 and 1843-44, but throughout the autumn of 1844 it ranged below even the record low prices of 1842. With the spring of 1845, at last, a steady advance was begun which carried the price above twelve cents in 1846. Then for the first time did the country substantially recuperate. The panic in the autumn of 1839 had carried cotton below the value at which great quantities of it had been pledged for loans. When the time of settlement came, the planter had to make good the deficit or go bankrupt, and in the latter case the bank which had made the loan would have to assume the loss. Slave and land prices fell in sympathy with cotton prices; and throughout the half-decade duration of the hard times it was almost impossible to settle any considerable debt without excessive loss in the process. Dozens of banks and thousands of planters were absolutely bankrupted, and even some of the state governments were driven to repudiate their bonds. The focus of the distress was in the Mississippi bottoms and adjacent districts, as usual. Among the descriptions of the state of affairs extant is the following, written by W. H. Wills of North Carolina in a diary of a trip through Mississippi in 1840, published in the Southern History Association *Publications,* vol. 8, p. 35:

"I find through this country some of the finest lands I have ever seen and calculated to yield as much as any lands in the United States. But alas! to such conditions are the people reduced in money affairs.—Speculation, speculation, has been making poor men rich

and rich men princes; men of no capital, in three years have become wealthy, and those of some have grown to hundreds of thousands.—But as great as are the resources of Miss.; and as valuable as are her lands, yet there were limits to both and these limits have been passed, lost sight of and forgotten as things having no existence. A revulsion has taken place, Miss. is ruined, her rich men are poor and her poor men beggars. Millions on millions have been speculated on and gambled away by banking, by luxury, and too much prosperity, until of all the States in the Union she has become much the worst. We have seen hard times in North Carolina; hard times in the east, hard times everywhere, but Miss. exceeds them all. Some of the finest lands in Madison and Hinds Counties may now be had for comparatively nothing. Those that once commanded from thirty to fifty dollars per acre may now be bought for three or five dollars and that with considerable improvements, while many have been sold at sheffs. Sales at fifty cents that were considered worth ten to Twenty dolls.—The people too are running their negroes to Texas & to Alabama, and leaving their real est. & perishable property to be sold or rather sacrificed. In the community where I am, it may probably be said that *not one man in fifty* are solvent and probably less a number than this, but what are more or less involved. So great is the panic and so dreadful the distress that there are a great many farms prepared to receive Crops & some of them actually planted, and yet deserted, not a human being to be found upon them. I had prepared myself to see hard times here, but unlike most Cases, the actual condition of affairs is much worse than the report.''

The crisis of 1839-44 was the last painful stringency in the experience of the ante-bellum South. Cotton prices were maintained so steadily at the prosperous level of from ten to twelve cents during the whole decade of the fifties that even the panic of 1857 failed to bring a severe convulsion. Nevertheless, during that decade speculation in slaves again waxed so strong and carried slave prices so high at its end that a severe financial crisis could not have been far off, had the great war of secession not intervened with its own overwhelming one.

Every community dependent upon capitalistic industry experiences much the same succession of ups and downs. It is the price which, with the world's present imperfect adjustments, must be paid for the benefits of capital. But the ante-bellum plantation communities, it must be said, gained less solid advantages in their prosperous periods and lost more

in their periods of adversity than do normally constituted capitalistic communities employing free labor. In American panics Wall street may export to Lombard street the stocks and bonds which have fallen abnormally low in the American market, and thereby relieve itself of part of its stress; but the cotton belt in crises could not re-export the slaves which it had bought in flush times. The régime, which the individual slaveholders were practically as powerless as the slaves to remodel, impelled the investment of earnings in prosperous times in low-grade laborers at high prices; and it intensified the loss from panics because of its lack of fluid securities.

BIBLIOGRAPHY.—Baldwin, J. G.: *The Flush Times of Alabama and Mississippi* (New York, 1853); Callender, G. S.: "The Early Transportation and Banking Enterprises of the States in Relation to the Growth of Corporations" (In *Quarterly Journal of Economics*, vol. 17, pp. 111-162); Catterall, R. C. H.: *The Second Bank of the United States* (Chicago, 1903); Debouchel, V.: *Histoire de la Louisiane* (New Orleans, 1841); Dewey, D. R.: *Financial History of the United States* (New York, 1903); Donnell, E. J.: *Chronological and Statistical History of Cotton* (New York, 1872); Emerick, C. F.: "The Credit System and the Public Domain" (in *Vanderbilt Southern History Publications*, No. 3, Nashville, 1899); Niles, H. (ed.): *The Weekly Register* (Baltimore, 1811-1849); Sumner, W. G.: *A History of Banking in all the Leading Nations* (Vol. I, New York, 1896); Wills, W. H.: *Diary* (in *Publications of the Southern History Association*, Vols. VII and VIII, Washington, 1903, 1904).

ULRICH B. PHILLIPS,
Professor of History, Tulane University of Louisiana.

MONEY, CREDIT, AND BANKING.

COLONIAL AND EARLY STATE CURRENCY IN THE SOUTH TO 1791.

BY the terms of the charter dated April 10, 1606, and granted by King James I, permission was given to the incorporators of the London and Plymouth companies to establish and cause to be made a coin to pass current "between the people and natives in their respective settlements in America." The earliest coinage for America seems to have been executed in 1612, when the Virginia Company was endeavoring to establish a colony in the Bermudas. This coin was of the denominations of a shilling and six pence, and was struck in copper, with the figure of a hog on one side, in memory of the abundance of hogs originally found on the islands. In November, 1645, Captain John Upton was appointed by the General Assembly of Virginia mintmaster-general, and 10,000 pounds of copper were ordered to be bought and coined into 2 pences, 6 pences, and 9 pences. But while this is interesting as showing that Virginia, like Massachusetts, claimed the sovereign power of coinage, it is not believed that the coins proposed at this time were ever actually put in circulation. In 1722 William Wood obtained a patent in England for coining money for America, and the coin supplied by him to the colonies is known to numismatists as *Rosa Americana* and was in values of farthings, halfpennies and pennies.

In 1772 the sum of £1,000 sterling was invested by

the Virginia Assembly in copper, and struck off in England into coin, the Virginia half-penny, which was largely circulated in 1775 and 1776.*

In Maryland, Lord Baltimore issued, in 1660, silver coins of the denominations of 4 pence, 6 pence and 12 pence.

These were feeble efforts, and English money could not circulate to any extent in the colonies, for, being worth more in London to the extent of the added exchange which sometimes rose to 60 per cent.. it all left these shores as fast as it was brought over. The colonists were thrown on their own resources, and in Maryland, Virginia, and North Carolina the general medium of exchange was tobacco, though in very early days the settlers trafficked to some extent with the Indian roanoke. In South Carolina rice, corn, and other products, were used as a medium of exchange.

Coin brought in from foreign countries was accepted at rates fixed by the General Assemblies, differing in each colony, till, in 1707, a proclamation of Queen Anne made the rates uniform. The British money in circulation passed at the face value with the added exchange. Thus when the par of exchange was at 25 per cent. one shilling sterling passed at 1s. 3d. currency; one pound sterling at one pound 5 shillings currency.

Imperative circumstances forced all the colonies at different times into the use of that delusive substitute, paper money. The first to issue it was Massachusetts, whose people seemed to acquire a passion for it, and could not be weaned from its use till after Shay's rebellion. To pay the expenses of the expedition to St. Augustine, the General Assembly of South Carolina, in 1703, issued notes to the amount

* Specimens of the coin are frequently discovered in Virginia, though Mr. Jefferson wrote, "Coppers have never been in use in Virginia."

of £6,000, with 12 per cent. interest. This was the beginning of a system in South Carolina of vast issues which rapidly depreciated. By 1716 South Carolina paper money was worth only one-fourth that of the standard British, and, in 1749, but one seventh. Maryland and North Carolina were not far behind South Carolina in their issues, but in Virginia this sort of currency was not resorted to till the French and Indian War in 1754. After that time there was a frequent resort to it, but as the most satisfactory funds were established for their redemption, the Virginia notes, up to the time of the American Revolution, were generally preferred by the merchants to silver and gold.*

There was one form of paper money currency which existed, during the Eighteenth century, in Maryland and Virginia, of too remarkable a nature to be passed over with the mere mention. In both colonies there was a law which required all tobacco to be brought to certain warehouses situated on the different creeks and rivers, where it was examined, and a certificate given to the owner by the inspector for what was good and merchantable. These notes had the character of excellent money and could pass from hand to hand without endorsement, the title to, or property in, the tobacco lying entirely in the possessor of the notes.

The American Revolution was supported chiefly by the faith of the people in ultimate success, a faith which stimulated the issue of floods of paper money. This money, both state and continental, immensely depreciated, and the finances of the country were at their last ebb when the surrender of Cornwallis at Yorktown extricated the country, not only from military difficulty, but from financial destruction.

*Report of the Treasurer, Robert Carter Nicholas, in the *Virginia Gazette* of July 29 and Sept. 30, 1773.

After that event one of the first objects which attracted the attention of Congress was the currency. The condition of things in the states was anomalous. The pound had, by custom, acquired a different value in different parts of the country. In Virginia, Connecticut, Rhode Island, Massachusetts, and New Hampshire the pound current was 1,289 grains pure silver; in Georgia 1,547 grains; in North Carolina and New York 966¾ grains; while the pound sterling was 1,718¾ grains.

The Spanish dollar, or "piece-of-eight," that came in from the West Indies and Mexico, was familiar in all the colonies and circulated in each, and was as much referred to as a measure of value as their respective pounds. The tenth part was equal to the Spanish bit or half pistereen, which was also a coin perfectly familiar, and the hundreth part differed little from the "copper" current in many of the states. Mr. Jefferson quickly noticed these features and founded the currency of the country upon them. As a member of Congress in 1782 he opposed the plan of Robert Morris, the secretary of the treasury, who in selecting a unit made it too minute for ordinary use, so that a horse or bullock of eighty dollars value would require a notation of six figures. Mr. Jefferson proposed instead to adopt the Spanish dollar, or piece-of-eight, as our unit, and to apply the easy decimal system to the notation, so that the gold eagle would represent ten units, the silver dime the tenth of a unit, and the copper cent the hundredth of a unit. What happened I give in Mr. Jefferson's own words: "I wrote some notes on the subject which I submitted to the consideration of the financier (Morris). I received his answer and adherence to his general system, only agreeing to take for his unit one hundred of those he first proposed, so that a dollar should be 14.40/100 and a crown 16 units. I re-

plied to this and printed my reply on a flying sheet, which I put into the hands of members of Congress for consideration, and the committee agreed to report my principle. This was adopted the ensuing year and is the system which now prevails."

Thus to a Southern man belongs the credit of the establishment of a common currency for the country at large, and it is praise enough that its merits have been recognized throughout the world.

Under the constitution adopted for the United States, in 1788, Congress acquired the control of the currency in the new Union, and, in 1791, Hamilton, secretary of the treasury under Washington, brought forward his financial measures. A scale was adopted at which the paper money should be redeemed, a tariff was imposed for the payment of the national debt, a national bank was chartered, and a mint and coinage system, based upon Jefferson's ideas, were established.

BIBLIOGRAPHY.—Crosby, Sylvester S.: *Early Coins of America*, published by the New England Numismatic and Achæological Society (Boston, 1873); Dye, John S.: *Coin Encyclopedia* (Philadelphia, 1883); Hawks, Francis Lister: *History of North Carolina* (2 vols., 3d edition, 1857); Hening, William Waller: *Statutes at Large of Virginia* (13 vols., 1823, Richmond, Va.); Hepburn, A. Barton: *History of Coinage and Currency in the United States and the Perennial Contest for Sound Money* (New York and London, 1903); Homans, I. Smith: *The Book of Coins* (Philadelphia, 1872); Jones, Charles C., Jr.: *The History of Georgia* (2 vols., Boston, 1883); Larned, J. A.: *Dictionary for Ready Reference* (5 vols., Springfield, Mass., 1895); Letters of Robert Carter Nicholas, treasurer of Virginia (published in the *Virginia Gazette* for July 29 and Sept. 30, 1773); McCrady, Edward: *South Carolina under the Proprietary Government* (New York and London, 1897); *Memoir, Correspondence and Miscellanies from the Papers of Thomas Jefferson*, edited by Thomas Jefferson Randolph (4 vols., Charlottesville, Virginia, 1829); Oldmixon, John: *The British Empire in America* (2 vols., London, 1741); Phillips, Henry, Jr.: *Historical Sketches of Paper Currency of the American Colonies, Prior to the Adoption of the Federal Constitution* (2 vols., Roxbury, Mass., 1856-66); Scharf, John Thomas: *History of Maryland from the Earliest Period to the Present Day* (3 vols., Baltimore, 1879); Snowden, James R.: *A Description of Ancient and Modern Coins in the Cabinet Collection of the Mint of the United States* (Philadelphia, 1860); Streeter, Sebastian, F.: "Sketch of the Early

Currency in Maryland and Virginia'' (in *Historical Magazine and Notes and Queries,* II, 42, New York and London, 1858).

LYON G. TYLER,
President of William and Mary College.

THE CURRENCY AND CURRENCY PROBLEMS IN THE SOUTH, 1791 TO 1865.

FROM 1789 to 1862 the only legal tender for private debts in the United States was gold and silver coin. The sole paper currency of that time was the issue of private banks, redeemable in specie. The first bank of the United States, chartered in 1791, was a private concern; and its notes circulated throughout the Union, in the South no less than in the North. There were then only three state banks; but before the expiration of the charter of the first United States Bank in 1811, eighty-eight state banks were organized, and were issuing paper currency. Circulating notes of the general government, payable on demand without interest, were not issued until seventy years after the adoption of the Federal constitution. The constitution prohibited the several states from issuing bills of credit; and in consequence private banks were chartered throughout the country. Soon after the adoption of the constitution these banks began to spring into existence in every direction, and with their flood of note-issues drove coin from general circulation. This was the case in the South as well as in the North, though there were fewer of these private banks in the former than in the latter section. The varying value of the notes of issue was the cause of much financial trouble and disturbance; though the banks of New

England and New York, under their better systems of redemption, preserved, to a degree not known in the South and West, the stability of their note issues. In 1814 all the banks of the country outside of New England suspended specie payment, but the paper-money business continued. About this time Kentucky incorporated forty new banks, with an aggregate capital of ten millions of dollars, most of which failed within a year after their organization. While in New England there was some restraint on the issue of bank bills, in the West and South the unlimited issues of bank paper, without adequate provision for its redemption, gave it the name of "wild cat currency." The newspapers of the period quote this circulating medium at discounts ranging from five to twenty-five per cent., except in the locality of the bank of issue. Panic after panic ensued as the result of these irresponsible bank issues. In 1836 the charter of the second Bank of the United States expired by limitation; and thenceforward, until 1862, the State banks had the field to themselves.

During all this time, the bank issues, such as they were, constituted the bulk of the currency, North and South; for specie had practically disappeared from general circulation. Benton graphically describes in his *Thirty Years in the United States Senate,* the institutions which emitted much of this currency as "banks of moonshine, built upon each other's paper, and the whole ready to fly sky high the moment any one of the concerns becomes sufficiently inflated to burst." The South, which was an agricultural country, with slave labor, suffered less from the character of this paper currency than did other sections of the country.

One of the difficulties with the paper circulation, and this was especially the case in the South, was the want of a system of mutual exchange of notes

among the banks themselves. Furthermore, there apparently existed on the part of the banks a prejudice to any payment of the circulating notes in specie. This prejudice was so pronounced that in the language of a distinguished writer on the subject "any individual who demanded the payment of specie to any large amount was marked as a common victim by the banks."

The first and most serious effort to secure a prompt and regular redemption of the notes originated in Massachusetts, where "the Suffolk System," which was afterwards extended throughout New England, compelled the local country banks to keep each a redemption fund at the Suffolk Bank by a boycott, on the part of the banks which united in the "System," of the paper money of all Massachusetts banks which failed to do so. In the South no such redemption feature existed; yet in spite of this lack, by reason of existing economic conditions in that section the paper currency sufficiently served its purposes; and during the two decades preceding 1860 there was no part of the United States which flourished and prospered more than did the Southern states.

One of the characteristics of this bank-paper currency which militated against its convertibility was the issue of small notes, a fault that at an early date was recognized as so serious as to require the intervention of legislative enactment by several of the Southern states, notably Maryland, Virginia, and Louisiana, where the banks were forbidden by statute to issue notes of denominations less than five dollars.

"Practical inconvertibility," says Francis A. Walker,* "characterized the issues of the joint-stock banks of the United States down to 1834.

* *Money*, 496.

Looseness of management, the want of legal regulation, the absence of any authoritative and effective business traditions and maxims, with, in not a few cases, purposed swindling of the most outrageous character, committed always with entire impunity, make the early history of paper-money banking in the United States exceedingly discreditable."

The inauguration of the "Suffolk System" of redemption in New England, and a somewhat similar scheme known as "The New York Safety Fund System" in New York and other Northern states, established a degree of stability in the bank paper of the Eastern and Northern banks, which that of the South and West never attained.

The relative sparsity of population in these sections, however; the comparative infrequency of cities and towns; the existence of a rural population, engaged in agricultural pursuits with negro slaves; and a general absence of manufactures and commerce, combined to obviate the necessity of a different currency for those who stayed at home. It was only to travellers, who, in passing from one locality to another, had to pay heavy premiums in exchange between local currencies, that the lack of a general currency good everywhere was a cost. The tobacco-planter in Maryland, Virginia, and Carolina; the cotton and rice-planter of the Carolinas, and the Gulf states; the sugar planter of Louisiana, conducted each his business in large measure upon ledger-credits, and felt little need of the currency that is now necessary "to move the crops." He raised these crops upon his own lands with slave labor, and moved them largely through the same instrumentalities. He bought those supplies which he did not himself thus raise, through his factor or commission merchant in the city of Richmond, or Charleston, or Savannah, or Mobile, or New Orleans, as the case

might be; and he settled his accounts with his factor or commission merchant at the end of the year by sending him his crops. A large circulating medium was unnecessary upon the *ante-bellum* Southern plantation.

Prior to the destruction of the Bank of the United States by President Jackson, and the consequent sudden springing-up of a mushroom growth of state banks, the statistics of bank currency are almost worthless.

"So completely without regulation," says Francis A. Walker,* "or even inspection was the so-called convertible paper money of the United States in this period, that it is scarcely possible to recover any of the facts of banking capital, circulation, deposits, or specie reserve. Hardly a statistical fragment survives as an indication to the student of money. It is impossible to tell accurately what was the total circulation of the country at any time. There is only too much reason to suppose that the officers of many banks did not themselves know the liabilities of the institutions whose affairs they were conducting." After 1835 these statistics were kept with a larger degree of accuracy, and are accessible in works upon the subject.

With the outbreak of the War between the States, came, on the Northern side, the imposition of the prohibitive ten per cent. tax on state bank issues in order to make a market for government bonds under the newly devised national banking system, and the payment of war obligations with "the blood-stained greenback." In the South, there was little coin, and the government currency issues of the Confederate States fell in values from the beginning. The present writer has undertaken to describe currency con-

* *Money*, 498.

ditions in the South during the War period * in an article in *The Century Magazine*, for September, 1888, from which the following is quoted:

"The currency of the new government was from the beginning weighted down with a collateral condition, . . to pay . . 'after the ratification of a treaty of peace between the Confederate States and the United States of America.' . . . This element of uncertainty made the value of the currency as shifting and mutable as the fortunes of the armies of its governments; but a cause of depreciation much more potent and far-reaching was the diminution and final cessation of the cotton traffic by reason of the blockade.

"The continental currency of the Revolution, floated on the tentative credit of a public and undeveloped country, did not lose its value any more rapidly than did this money of a confederation of some of the wealthiest and most prosperous states on the North American continent. The dollar and ten cents of Confederate money, which in Virginia in September, 1861, would buy as much as a gold dollar of the United States, was worth in September, 1864, only about one-twenty-seventh of a gold dollar, and would buy scarcely anything, because it had no circulation anywhere except in the Confederacy, and at that time there was hardly anything in the Confederacy for sale.

"Even so early as February, 1863, the money value of a day's rations for 100 soldiers, which had in the first year of the war been about $9, was at market prices $123. In the corresponding month of the following year, a day's rations had no estimated market value. From the soldier who possessed them, money could not buy them, and he who was without them was unable to procure them at any price."

* See also article, "Confederate and State Currency During the War Between the States," *post*, p. 453.

The following table of values of Confederate money adopted by the courts of Virginia after the war for convenience in settlements of transactions in that currency, shows at a glance the falling values of Confederate money from the beginning:

	1861	1862	1863	1864	1865
Jan....	.....	$1.25	$3.00	$20.00 to $20.50	$45.00 to $60.00
Feb....	.....	1.25	4.05	22.50 to 25.00	45.00 to 65.00
March..	.....	1.30	5.00	23.00 to 24.50	60.00 to 70.00
April..	.....	1.40	5.50	22.00 to 23.00	60.00 to .....
May....	$1.10	1.50	5.50	18.00 to 21.00	.....
June...	1.10	1.50	7.00 to $8.00	17.00 to 19.00	.....
July...	1.10	1.50	9.00	20.00 to 23.00	.....
August	1.10	1.50	12.00 to 13.00	22.50 to 25.00	.....
Sept...	1.10	2.50	12.00 to 13.00	22.50 to 27.50	.....
Oct....	1.15	2.50	14.00	26.00 to 27.00	.....
Nov....	1.15	3.00	15.00 to 17.00	27.50 to 35.50	.....
Dec....	1.20	3.00	18.00 to 20.00	34.00 to 49.00	.....

Bibliography.—Gordon, A. C.: *Congressional Currency* (New York, 1893); Gordon, Armistead C.: "Hard Times in the Confederacy" (in *The Century Magazine* for September, 1888); Knox, John J.: *United States Notes* (New York, 1892); Trenholm, W. L.: *The People's Money* (New York, 1893); Tucker, George: *Progress of the United States in Population and Wealth in Fifty Years* (New York, 1855); Upton, J. K.: *Money in Politics* (Boston, 1893); Walker, Francis A.: *Money* (New York, 1891); White, Horace: *Money and Banking* (3d ed., New York, 1908).

Armistead C. Gordon,
Author of Congressional Currency, etc.

CONFEDERATE AND STATE CURRENCY DURING THE WAR BETWEEN THE STATES.

The Confederate government aimed to meet the rising flood of war expenses with enormous issues of treasury notes.* This policy amounted to an ex-

*See article, "The Finances of the Southern Confederacy."

change, nominally voluntary, but in reality more or less forced, of the services and goods of the people for the government's promises to pay, at first at a definite time with interest, later at an indefinite future and without interest, the notes which took the place of coin and other forms of currency.

The first issue of such notes under the act of March 4, 1861, bore interest and fell due in one year. The smallest denomination was $50, and the amount issued was only one million dollars. This limit was doubled before the issue fell due. Moreover, by the act of May 16, 1861, twenty millions of notes not bearing interest, redeemable in two years, and in denominations as low as $5 were authorized. In August, 1861, a further 100 millions of similar notes redeemable six months after the ratification of peace were authorized, the limit being raised to 150 millions in December, 1861. Interest-bearing call-certificates were also provided in that month. Further issues were authorized in April, 1862, among them one of 100 millions of notes bearing 7.30 per cent. interest per annum, the notion prevailing that the promise of interest would make them attractive as an investment and keep them out of circulation. In point of fact, this promise swelled the amount of currency afloat.

The demand for notes of small denominations was met in April, 1862, by an issue of five millions—later ten millions—of $1 and $2 notes, and a year later by an issue of fractional currency. By an act of Sept. 23, 1862, no limit was put on the issue of notes, and their amount in circulation continued to increase till the end of the war. The two funding acts of March, 1863, and February, 1864, aimed to reduce the excessive issues, failed of their purpose, and the new issues allowed by these acts more than made up for the reductions. By the act of 1864 the

time of redemption was pushed off to two years after the ratification of peace, and during the last six months of the war the amount issued, some of it probably unauthorized by law, greatly increased.

As a result of this reckless paper money policy, the face value of the notes outstanding—all of it in circulation—amounted approximately to one million dollars in June and July, 1861; thirty millions in January, 100 millions in March, 200 millions in August; 450 millions in December, 1862; 700 millions in the fall of 1863; and 1,000 millions by the end of the war.

The redundancy of the currency and the growing distrust of the government's ability to redeem its notes, rapidly depressed their value as expressed in gold. The latter was quoted at a premium in April, 1861, and rose to extraordinary heights before the end of the war. One gold dollar was the equivalent of two paper dollars in September, 1862, of three in January, 1863, twelve in August, and twenty in December, 1863; twenty-six in October, 1864, and fifty to sixty during the first months of 1865.*

As in the North, the decline in the gold value of the paper money suggested legislation to compel creditors to accept the notes at their face value; but the example of the Federal legal tender law was not followed in the South. The strict construction views of the Southern statesmen stood in the way. The futility of such legislation was also more apparent to them. However, indirectly, many Confederate and State laws were aimed at compelling unwilling creditors to accept the depreciating and discredited notes.

The general price level of commodities followed that of gold. Such articles as were exclusively produced abroad and smuggled into the South rose to

* See article "The Currency and Currency Poblems in the South, 1791 to 1865."

fabulous heights. Some staple products of that section—cereals and meat—rose somewhat higher than gold; while cotton—the market for which was largely cut off by the blockade—fell off in gold price, though it rose to excessive heights as expressed in paper currency.

The abnormal rise of prices necessarily created a growing demand for more currency, and the Southern banks responded by expanding their issues of banknotes, all of them suspending specie payments early during the war, the New Orleans banks being the last to do so. The state governments, private corporations, such as railroads and insurance companies, and individuals followed suit and added to the redundant currency by issuing large amounts of circulating notes to meet the popular demand. These were made redeemable in Confederate notes, and, therefore, sank in value with them. The total amount of notes of all kinds in circulation before the end of the war must have been enormous. In many sections of the South they became utterly discredited—large issues of counterfeits helped on the movement—and business was carried by barter. Large amounts of Northern "greenbacks" were in circulation within the Confederate lines, and, though illegal, were willingly accepted as a relief from the situation.

The disordered currency gave a great impetus to every kind of speculation. Every noteholder was necessarily disinclined to hold his notes while they continually shrank in value, and was impelled to pass them on by buying something with a view to profiting by the constant rise of prices. Producers, for instance of foodstuffs, were less and less inclined to raise and sell their products as long as they had to accept depreciating paper money in payment. There resulted a scarcity of such products because of the

difficulty of coaxing them into the market. The Confederate armies suffered immensely from this difficulty. Stringent legislation was aimed at correcting it, but with as little effect as that of the laws to prevent speculation.

The Confederate experience with paper currency was the counterpart of the similar experience in the North. The greater industrial resources, however, of the North kept the Federal authorities from going to such extremes.

Bibliography.—Capers, H. D.: *Life and Times of C. G. Memminger* (Richmond, 1893); Pollard, E. A.: *First, Second, Third Year of the War* (New York, 1863, 1864, 1865); *The War in America* (London, 1865); Rhodes, J. F.: *History of the United States* (Vols. III-V, New York, 1898-1904); Schwab, J. C.: *Confederate States of America* (New York, 1901, with a full list of authorities); Smith, E. A.: *History of the Confederate Treasury* (*Pubs. of the Southern History Assoc.*, March, May, July, Washington, 1901); *Official Records: A Compilation of the War of the Rebellion* (Washington, 1880-1901, 130 volumes); Southern newspapers; State statutes.

John C. Schwab,

Librarian, and Formerly Professor of Political Economy, Yale University.

AGRICULTURAL CREDIT AND CROP MORTGAGES IN THE SOUTH.

Unlike the farms of the Northern states where the greater portion of the food supplies required for home consumption was produced on the farm and only the surplus found its way to market, the plantations of the South were given over almost entirely to the production of a single staple crop for sale in a distant market. Through the proceeds of the sale of this crop were secured the slave laborers required on the plantation, the clothing, and, in large part, the food required for these laborers, the mules and

plantation supplies, and the comforts and luxuries demanded by the planter and his family. The work of exchange was carried on for the most part by factors or commission merchants, located sometimes in the interior towns but usually in the Southern seaports. To these factors the planters consigned their crops as soon as they were harvested and through them oftentimes they purchased as needed the plantation supplies.*

It not infrequently happened that, either because of a desire to add more land or more slaves to his plantation, or because of a partial crop failure, or owing to an unexpected fall in the price of the staple, the planter desired credit, and there was no one to whom he could more naturally go than the factor who sold his crop on commission and who always stood ready to furnish him a portion of its expected value at the time the crop was marketed, even before its selling price had been determined. The factors themselves were frequently men of means but the funds needed by them to make advances were for the most part furnished by bankers and brokers at the North or in Europe.

From advancing a portion of the value of a planter's crop at the time it was brought to market, to making advances on it even before it was harvested was only a step, and one which was easily taken under the speculative conditions surrounding the growing and marketing of the great Southern staples. Anything like a complete crop failure seldom occurred and the demand for these crops was usually a tolerably steady one. Great fluctuations in the total yield and in the selling price were, however, frequent. The majority of the planters had aristocratic tastes and frequently extravagant habits, and they could not easily make their stand-

*von Halle, *Baumwollproduktion*, I, 279.

ards of living fluctuate with the changes in their incomes. The factors, on the other hand, were only too ready to make the desired advances wherever possible, for in this way they were insured the sale of the planters' crops and their own commissions.

The practice of making advances on the growing crops had existed in the South even before the Revolutionary War, at which time the British merchants seem to have been the chief lenders.* The practice was reëstablished at the close of the Revolution when the desolation caused by the war had made some financial assistance necessary, and the habit thus formed tended to grow when cotton came to be the leading crop and slave labor was so largely used in its cultivation. Negroes were almost always sold on credit and, owing to the fact that a planter's social position was largely determined by the number of slaves he possessed, there was a constant temptation to exhaust the credit possibilities in this direction.†

Land did not form the basis of credit transactions to any considerable extent in the South. There were, it is true, times of great land speculation, like that which preceded the crisis of 1837 when mortgages on lands were accepted by the state banks as security for loans.‡ Generally speaking, however, the low value of land and the exhaustive system of cultivation made this form of security undesirable. Slaves were oftentimes mortgaged for the purpose of purchasing other slaves and occasionally to serve other ends,§ but there were obvious limitations to the use of this kind of security.

Mortgages on the growing crops, or even on those not yet planted became therefore the usual form of

*Ramsay, *History of South Carolina*, II, 222, 395–6, 428.
†Olmsted, *The Cotton Kingdom*, II, 49.
‡Ballagh, *Tariff and Public Lands*, American Historical Association, *Annual Report*, 1898, 260.
§von Halle, *op. cit.*, I, 279.

furnishing security by the large planters who were the chief borrowers prior to 1860. When a planter had prepared his ground for seed, he would go to the factor at the nearest market, describe his land, state the crop, and the number of acres to be planted, and the factor having satisfied himself in regard to the truthfulness of the statement would make the desired loan, taking a mortgage on the crop as his security. In the case of cotton the usual practice was to loan as high as ten dollars per expected bale.

The rates of interest on these loans were high, as was naturally to be expected, considering the uncertainties in regard to the crop and the price it would bring. "Every person familiar with the condition of trade in the Southwest," wrote a Southern pamphleteer, "knows what an enormous tax is levied by factors on planters for the advances made the latter. Ten, twelve, fifteen or more per cent. are the common rates of interest charged for these loans. Besides the planter is placed completely in the power of the factor. The crop is often sold to satisfy the exigencies of the latter's situation."*

The planter was not the only sufferer under the system of crop mortgages. In spite of the high interest rates charged, crop failures and price fluctuations frequently rendered the security insufficient to protect the factor from loss and threatened him with bankruptcy. In 1855 the Southern Commercial Convention recommended the commission merchants of the Southern and Southwestern states "to adopt such a system of laws and regulations as will put a stop to the dangerous practice, heretofore existing of making advances to planters in anticipation of their crops," and it was further recommended that "the legislatures of the Southern and Southwest-

* *Establishments of Credit, or What is Our True Policy? It is Herein Considered by a Virginian*, 21.

ern states pass laws making it a penitentiary offense for the planters to ask of the merchants to make such pecuniary advances." *

Many of the factors who had outstanding accounts with the planters at the outbreak of the war were driven into bankruptcy by the inability of the latter to redeem their promises of payment, and it is owing largely to these failures that a new class of lenders made their appearance during the years following the war.

BIBLIOGRAPHY.—Halle, Ernst von: *Baumwollproduktion und Pflanzungswirtschaft in den nordamerikanischen Südstaaten* (Erster Teil *Die Sklavenzeit*, Leipsig, 1897); Hammond, M. B.: *The Cotton Industry*, Part I, *The Cotton Culture and the Cotton Trade*, (*Publications of the American Economic Association*, New Series, No. I, New York, 1897); Lanman, James H.: *The American Cotton Trade* (in *Hunt's Merchants' Magazine and Commercial Review*, IV, 201ff); Olmsted, Frederic L.: *The Cotton Kingdom* (2 vols., New York, 1861); Ramsey, David: *History of South Carolina* (2 vols., Newberry, S. C., 1858).

MATTHEW BROWN HAMMOND,
Professor of Economics, Ohio State University.

BANKING IN THE SOUTH.†

BANKING did not develop so early in the agricultural sections of the South as in the commercial centres in the North. In 1792 two charters were granted in Virginia, but of these two institutions there is no further information, and consequently they do not find a place in the permanent statistical records which have been compiled. In the same year a bank was established in South Carolina. In 1801, out of a total of thirty-two banks, there were two in the South, both in South Carolina; by 1805 the num-

* Quoted by Olmsted, *The Cotton Kingdom*, II, 49–50.

† Due acknowledgment is made of assistance given by the Carnegie Institution of Washington in the collection of data upon which this article is based.

ber had increased to seventy-five. Virginia, North Carolina, Louisiana, and Kentucky, as well as South Carolina, appear in the list. The subsequent growth is seen in the following table:

	1805	1811	1815	1820	1830	1835	1840	1850	1860
Virginia	1	1	4	4	4	22	27	36	65
North Carolina	2	3	3	3	3	?	10	19	30
South Carolina	2	4	5	5	5	4	14	14	20
Georgia	—	1	2	4	9	23	39	18	29
Maryland	4	6	17	14	13	?	21	21	31
Florida	—	—	—	—	1	2	5	?	2
Alabama	—	—	—	3	2	5	?	1	8
Mississippi	—	—	1	1	1	10	?	1	2
Louisiana	1	1	3	4	4	41	47	28	13
Tennessee	—	1	2	8	1	7	22	22	34
Kentucky	1	1	2	42	—	2	17	16	45
Arkansas	—	—	—	—	—	—	10	—	—
Missouri	—	—	—	1	—	1	3	6	38
Total:									

The above table is only approximately correct owing to the lack of reports, and the practice in some states of establishing branch banks which are not recorded as separate institutions.

Aside from a more varied experience in state property banks, and the adoption of a solid specie reserve for the security of note issues in Louisiana, there is little that was distinctive in the banking operations of the South as compared with other sections. Some of the states controlled the banks within safe limits; others permitted, if they did not encourage, speculation and unsound practices; some clearly recognized that banks were private institutions which depended for success on prudent management; others endeavored to use the banks as an agency to support the credit of the state and provide a method for indirectly issuing and circulating state notes. As a rule all banks were incorporated under special charters. In brief, the following facts may be noted to illustrate the development in the several states.

The first chartered bank in Maryland, the Bank of Maryland, was organized in 1790; the second, in 1795. The provisions were carefully drawn to prevent monopolistic evils; the state was given the

right to subscribe for stock and the capital was distributed to the several counties. As the earlier banks were located in Baltimore, and were managed by merchants trained in business affairs, they followed a conservative practice and fulfilled the object of useful banking institutions.

Between 1810 and 1818 expansion took place, and banks were established in the agricultural counties; from seven in 1809, the number grew to twenty-two in 1818. The extension, however, was too rapid and this state suffered in common with all sections of the country, though to a less degree, from the ill-advised inflation which followed the closing of the First United States Bank in 1811. A gradual demand arose that the banks contribute aid to the development of internal improvements and also for the support of schools. Between 1818 and 1829 no new banks were incorporated, but a bank mania was revived in the latter year, and by 1836 seven new institutions were organized. An unsuccessful attempt was made about 1830 to establish a state bank similar to those which played so large a part in states to the south and west. The panic of 1837 weeded out some of the weaker institutions, but in 1843 confidence in business took a new start and nearly a score of banks were chartered in the next fifteen years. Banks on the whole were in a sound condition, and their notes stood in good credit. An attempt to introduce a free banking system similar to that in New York failed. In 1858 the Bank of Baltimore promptly followed the example of New York in establishing a clearing-house system.

In 1804 Virginia began a policy of legislative control of unchartered banks and incorporated the Bank of Virginia with a capital of $1,500,000. Subscriptions were apportioned to seven different towns, thus providing for a mother bank at Richmond and

six branches. The state subscribed for one-fifth of the capital, and to furnish this could borrow the amount from the bank at 4 per cent. interest. This arrangement was practically copied from the charter of the First United States Bank, and was a common device to give the state some voice in control and an extra share in the profits provided this rose above the interest rate. In 1812, 1834, and 1837 five similar mother banks were chartered each with branches, so that in all there were six parent banks and forty-six branches, affording the community ample banking privileges. There were few restrictions placed upon these institutions; in common with banks throughout the country, they could issue notes in excess of capital, and there was no requirement as to reserve. Directors were liable in their individual capacity for loans in excess of issue. The state subscribed for stock, and the legislature elected its share of the directors. In 1816 unchartered banks were declared illegal under severe penalties, but owing to the wide circulation of some of their notes, it was found necessary to exercise a lenient policy. In charters granted in 1817 the state demanded a bonus of 15 per cent. in stock to be set aside as a fund for internal improvements. Loans were limited to 120 days. In 1837 the laws were revised, but the banks were still given great freedom. The issue of notes was limited to five times the specie in the vaults; some of the banks, however, issued as high as eight to one. Although there was embarrassment during the panic of 1837, the losses were not great. On the whole the banking system of Virginia was an interesting illustration of note issues based on commercial assets and in the main it was successful. There was an intelligent public sentiment; able men controlled affairs both in public and private life; there was no large body of pioneer debtors clamoring for

loans; and the security offered by borrowers was of a high order based on staple commodities of recognized value. Between 1851 and 1856 provision was made for the establishment of independent banks with note issues based on state bonds.

In North Carolina two banks were chartered in 1804 and a third in 1810. Branches and subscriptions by the state, as in Virginia, made a part of the system. These banks, however, erred in their management from the beginning; the capital was paid in stock notes given by the subscribers instead of in money, and equally important was the effort of the state to use the banking machinery to redeem its credit notes which had been issued in 1783-85. In 1818 for every dollar in specie there were twelve dollars in notes. Borrowers were forced to give their promissory notes payable in specie, but received bank notes which circulated at a discount. The banks also engaged in buying up their own notes at a discount, and apparently encouraged depreciation in order to increase their speculative profits. So disastrous were the consequences that in 1828 the legislature determined to close up the banks and set a date, well in advance however, for their termination. Subsequent legislatures revoked this radical action, but only gradually were management and practice improved. In 1835 the state sold bonds in order to raise money for its subscriptions to the reorganized Bank of the State of North Carolina. By 1850 the banks appear to have been in a prosperous condition.

South Carolina repeated the successful experience of Virginia. The first five banks, 1792-1812, were all located in Charleston, an important and prosperous commercial city. According to Mr. George W. Williams, "The banks were ably and honestly managed by the best merchants and bankers of Charleston.

Of the large amount of money deposited in these banks and the vast issues of currency, not a dollar was lost until the Civil War of 1861." In 1834 the Bank of Charleston was added to the list, and this institution became one of the most powerful banks in the country, enjoying a high reputation not only in the United States but also in England. The Bank of the State of South Carolina, established in 1812, was one of the few successful banks owned by a state. To the capital of this bank no private stockholders were admitted. In addition to commercial loans, the bank was authorized to loan on mortgage security up to one-third of the value of the security in sums not exceeding $2,000 to any one borrower. These loans were apportioned among the election districts, and could be continued on condition of the payment of one-tenth of the principal each year. As to whether the notes thus issued by the bank were state bills of credit, thus coming within the constitutional prohibition of state notes, no question was ever raised in South Carolina. Some bad debts were incurred, but notwithstanding these it was reported in 1843 that the average profit of the bank had been 7 per cent., and in 1848 it was reported that the bank had received and paid out for the state $28,000,000 without loss, that it had never suspended specie payments, and had preserved the state's credit in every emergency. This bank continued until 1870.

In 1810 two banks were established in Georgia, one in Augusta, and the other in Savannah. In 1815-16 two additional banks were chartered. In all of these the state took stock, and in 1828 it organized a Central Bank, basing the capital on its holdings in the banks, as well as the treasury surplus and other cash claims. The object of this institution was to furnish small loans up to $2,500, and it was expressly provided that buyers of state land could borrow of

the bank. At one time indeed the legislature ordered the bank to distribute $750,000 in loans to the counties for relief of the distressed citizens. Poor management and ill-advised legislation burdened the bank, causing its failure in 1841. Two banks were organized to promote internal improvements, the Georgia Railroad and Banking Company in Augusta, and the Central Railroad and Banking Company in Savannah. These were successful and played a large part in the development of railroads in Georgia. Besides these there were other small banks, too many for the amount of legitimate business which was offered. As a result there were frequent suspensions, failures, and losses to note-holders. Banks in Georgia also early showed extreme hostility to the Second United States Bank and its branches, and by their obstructive operations did much to check the development of sound principles and wise management.

Florida, beginning with 1828, while yet a territory, granted a few banking charters. Here again banks were established to aid settlers, rather than to effect commercial transfers. The most noted of these was the Union Bank chartered in 1833. Subscribers were not obliged to advance money, but secured their subscriptions by mortgages on real estate and slaves; on its side the bank was permitted to issue bonds which were guaranteed by the territory and the bank was thus founded on borrowed capital. As more notes were issued than the sale of bonds could provide for, and as there was corruption if not fraud in the execution and sale of the bonds, the affairs of the bank attracted the attention of the Federal government in 1839, and for many years the credit of the state was under a cloud because of its liability to pay the bonds issued by the territorial government. After 1840 the banking business was largely carried

on by agencies of banks in other states. In 1853 a general banking law was passed providing for note issues based on the deposit of securities. At the outbreak of the Civil War there were but two home banks in operation.

Alabama, 1816-18, before it became a state, established three banks, but the agency of a state bank was early sought. The first attempt made in 1820 proved a failure owing to the lack of specie capital for which the charter called. A second plan in 1823 abandoned all thought of a money capital, or of any capital at all, save the credit of the state. The capital, such as it was, was derived from the rents and sales of certain lands, public funds, and the issue of bonds. At first provision was made for the sale of only $100,000 of bonds, but this was increased from time to time until $14,000,000 were issued. The management was elected by the legislature. No legal limit was placed on the issue of notes. The bank was badly managed, and in the course of eleven years it accumulated over $6,000,000 of bad debts. As loans were apportioned among the counties, and directors were elected by members of the legislature, there was much political intrigue influencing the elections. In 1845 the bank ceased to do business. The history of the four other smaller banks chartered in this state is not much more creditable.

In 1809 Mississippi chartered a bank, the only one until 1830, when the state entered upon the experiment of a state bank based in part upon credit. The government subscribed for one-half of the $4,000,000 capital of this new institution, the Planters' Bank, by issuing bonds, and for a time state partnership proved advantageous. In 1838 the Mississippi Union Bank was chartered with the enormous capital of $15,500,000, to be obtained almost wholly from loans by the state. Through the sale of these bonds,

the state became involved in legal disputes which finally led to the adoption of a constitutional amendment forbidding their payment. Between 1834 and 1838 a large number of small banks were also chartered, but their career was brief, so that by the middle of the century there was not more than one in existence.

In Louisiana three banks were established in the early part of the nineteenth century, one in 1804 and two in 1811. In 1824 the state participated in the establishment of the Bank of Louisiana with a capital of $4,000,000, by taking one-half of the stock. The state provided its funds by the issue of bonds at the rate of $100 in bonds for $83 1/3 of stock, the bank acting as the agent in selling the bonds. One-half of the capital was to be loaned on mortgages. In 1827 a land bank was authorized, the state again advancing its credit in the form of bonds. The subscribers to the stock were the borrowers who pledged their subscriptions by mortgages, and in turn these mortgages were assigned to the state in security for the bonds. This method of converting landed property and slaves into circulating notes was employed in other charters, and notably in the Union Bank, 1832, with a capital of $7,000,000. It was especially favored because through the credit of the state, capital could be secured from Europe where the bonds found a ready market. These institutions were too weak to bear the strain of 1837; and in 1842 the governor and legislature by decisive action changed the entire banking policy of the state. The law of February 5, 1842, is regarded by financial experts as a model. In brief, it required a specie reserve of one-third of the liabilities; the investment of the deposits to be represented by short-time commercial paper not exceeding ninety days; refusal to extend a note or renew accommodation; no bank to pay out any note

except its own; and the banks to settle their balances with each other every week. This plan recognized the principle of asset banking in its ideal form. There was no limit placed on the issue of notes, and no deposit of securities was required against the notes. So successful was this system that the banks of Louisiana passed through the crisis of 1857 without suspension, and in 1860 Louisiana stood fourth in the list of banking capital, and second in specie holdings.

In Texas there were no incorporated banks, for its first constitution declared that "No corporate body shall hereafter be created, renewed or extended, with banking or discounting privileges." Notes, however, were circulated by private firms, in particular by "Mills," and notwithstanding legislative prohibitions, they were tolerated and found a ready currency.

Arkansas repeated the experiment of her neighbors in the establishment of two real estate banks in 1836. The results were disastrous, and by the crisis of 1837 banking and government credit received a severe blow; although the bonds were sold, disputes arose over the payment of interest and principal. Within six years these institutions were forced into bankruptcy; no others were chartered, and the community depended upon merchants for such banking facilities as they enjoyed.

Kentucky made a bad beginning in 1802 by permitting an insurance company to circulate promissory notes received in the course of business by assignment; and later, authority was given it to issue notes to the amount of debts due. A further error was made in the first bank charter in 1806; although nominally the bank had a capital of $1,000,000 it could begin business when $20,000 was paid in. As the legislature had the power to elect the president

and a majority of directors, the bank was drawn into politics; in common with others it suspended in 1814, but the legislature of Kentucky went further than other states in condoning this breach of commercial faith. It authorized a debtor to replevy, or put off his debt for one year, if a creditor would not accept in payment the notes of the suspended bank. This was but one of many stay and relief laws which provoked litigation and extreme bitterness of feeling. In the mean time much hostility was aroused over the question of monopoly in banking, and in 1818, forty banks were chartered with a capital of $10,000,000. These banks were permitted to redeem their notes in the notes of the existing Bank of Kentucky. They were imprudently managed, and abundant opportunity was offered for speculation. In 1819 sales under execution were suspended for sixty days, and later the right of replevin was extended to two years. The small independent banks failed; and the legislature then turned to a property bank, chartering in 1820 the Bank of the Commonwealth of Kentucky. Note issues to the amount of $3,000,000 were authorized, based on public credit; they were apportioned to different sections of the state, to be used in loans, not exceeding $2,000, to those who needed them in order to pay their debts or to purchase goods for exportation. The officers of the bank were elected by the legislature. The notes were legal tender for public debts, and were issued as low as 12½ cents; they greatly depreciated in value, and within a short time the question of their constitutionality was raised, but before this was settled in favor of the bank the institution failed. In 1833-39 other banks of a commercial character were chartered, and the state entered upon a more prosperous period.

Tennessee chartered its first bank in 1807 and a second in 1811. The provisions were strict accord-

ing to banking standards of that day. In 1817 additional banks were incorporated and the legislature endeavored to shut out the United States Bank by the imposition of a heavy tax. Under a policy of inflation, when commercial conditions demanded conservatism, the banks became embarrassed and suspended in 1819. The legislature sought relief in establishing the Bank of Tennessee, founded on state funds, lands, and sale of bonds. Notwithstanding the earnest opposition of Jackson who denounced the issue of bills on any other basis than that of specie, the bank went into operation; loans were apportioned among the counties; the legislature also enacted stay laws to delay the collection of debts. The experiment, however, was a failure; the state diverted its revenues into internal improvements and there was a heavy loss through the defalcation of its cashier. In 1832 the bank was liquidated, and the legislature henceforth granted charters of the ordinary type.

The first attempts at banking in Missouri proved failures. The Bank of St. Louis chartered in 1813 went into liquidation in 1819, and the Bank of Missouri, which was in operation from 1817 to 1822, was equally unfortunate. In 1837 the Bank of the State of Missouri was chartered, and this proved stable and enjoyed general confidence; it had five branches and one-half of its capital was subscribed by the state. But few other banks were chartered until 1857 when the legislature became prodigal in its grants; many of the banks established by these did not long survive.

From this brief summary it will be seen that nine states established property banks, and that only one of them, South Carolina, proved successful. In endeavoring to use banks as an agency to develop the

country, a serious error was made. The settlers, however industrious, could not uniformly make good their promises, and as a result such institutions were established on an unstable foundation. The other notable feature in Southern banking was the bank act of Louisiana of 1842, which won for the banks of that state general confidence and admiration. Another characteristic in Southern banking was the large dealing in bills of exchange. The South enjoyed the production of staples such as cotton and tobacco, whose value was stable and well recognized in all parts of the country as well as in Europe. When banks confined their operations to bills drawn upon such shipments they were successful, for they were always in possession of assets in process of early liquidation, and available for the payments which the South might wish to make to the North or to Europe. A large part of the exchange business was, however, carried on by commercial houses which were in reality private bankers.

In 1860 out of a total banking capital for the whole country of $424,000,000 the South, excluding Maryland and Missouri, had $95,000,000 or 22 per cent. Its circulation, however, was 35 per cent. of the total, showing that relative to its resources it did a larger proportion of its business on note issues than did the rest of the country. This was due largely to the more scattered population which made easy and prompt redemption less operative.

The South also enjoyed the banking facilities provided by the First United States Bank which established branches at Norfolk, Charleston, Savannah, and New Orleans. The Second Bank had offices in these four cities and also at Richmond, Lexington, Louisville, and Fayetteville. Later it opened branches in Mobile (1826), Natchez (1827), and Nashville (1827).

BIBLIOGRAPHY.—Knox, J. J.: *A History of Banking in the United States* (New York, 1900); Fitts, J. H.: *History of Banks and Banking in Alabama* (*Proceedings* of Alabama Bankers' Association, 1891, pp. 8-33); Brough, C. H.: *History of Banking in Mississippi* (*Publications* of the Mississippi Historical Society, Vol. III, pp. 317-340, Oxford, Miss., 1900); Royall, W. L.: *History of Virginia Banks and Banking Prior to the Civil War* (New York, 1907); Worthen, W. B.: *Early Banking in Arkansas* (Arkansas Bankers' Association, 1906); Sumner, W. G.: *A History of Banking in all the Leading Nations* (Vol. I, New York, 1896); Bryan, A. C.: *History of State Banking in Maryland* (*Johns Hopkins Univ. Studies in Historical and Political Science,* Nos. 1-3, Baltimore, 1899).

DAVIS R. DEWEY,

Professor of Economics and Statistics, Massachusetts Institute of Technology.

GENERAL ECONOMIC AND POLITICAL CONDITIONS.

1. Relation of Government to Agriculture and Industry.

STATE AND LOCAL PUBLIC REGULATION OF INDUSTRY IN THE SOUTH.*

IN Virginia, Georgia, and Louisiana, in the very early stages of the colonization, the governments conducted and regulated industries in a highly paternalistic manner. In all three colonies the authorities employed indentured servants in general industry on public account, as well as using them specially for iron and glass making in the case of Virginia, and for silk and wine growing in the case of Georgia. But all of these projects of government participation in industry proved so quickly and so completely disastrous, that a highly individualistic régime promptly supervened and came to prevail upon the whole throughout the South. The community ownership of land so characteristic in the New England colonies, and the official cowherds and fence-viewers met with in New England town records, were completely alien to the South. The Southern planting and farming families were rarely settled in groups; and the thinly scattered population felt relatively few needs for government activity in or detailed regulation of in-

*For additional information see articles, "State and Local Promotion of Agriculture and Mining Industry" and "Economic Statistics in the South."

dustry or commerce. Such needs as did arise in this connection, nevertheless, were promptly met by the provision of whatever machinery for public action the occasion was deemed to require. The legislatures, for example, established a uniform toll rate of one-eighth at all grist and flouring mills, and required the millers to abide by the maxim of "first come, first served" among their patrons. More conspicuously, all the tobacco-producing colonies and states, beginning with Virginia in an act of 1619, maintained more or less constantly some system of regulating the production and marketing of that staple. In some cases the number of plants and leaves to be grown by each laborer was restricted, but more generally the regulation was confined to the inspection of the harvested crop and the confiscation and destruction of the lowest grades. Another instance of regulation, which at the present day, when by-products are so generally utilized, has a peculiarly antiquated appearance, affected the disposition of cotton-seed by the ginners.*

Public regulation of wages on any considerable scale seems to have been attempted only in the colonial period and in times of special stress. An instance is an act of the South Carolina legislature, passed in December, 1740, just after a fire had swept the city of Charleston. The act prescribed for a period of ten years maximum rates of wages in all of the building trades. Incidentally, it also fixed

* The following enactment by the Georgia legislature in 1803 is typical for the period:

"Be it enacted, * * * That from and after the first day of January next, it shall be the duty of all owners or occupiers of cotton machines for the picking of cotton [*i.e.*, cotton-gins], in all villages, or immediately in the vicinity of any town or village within this state, to enclose the seed in such manner as will effectually prevent all stock, especially hogs, from eating them.

And be it further enacted, That all owners or occupiers of such machines as aforesaid, shall secure and keep the seed dry, or remove them at least once every week from said machine, to such a distance from such city, town, village or vicinity thereof, so as to prevent all the unwholesome effects resulting from the stench and vapours arising from the seed, in their putrid state; and it shall be the duty of such owners or occupiers of such machines to enclose the seed in the place to which the same shall be removed, so as to prevent his, her or their neighbors' stock from feeding thereon."

maximum prices for brick per thousand, quoted in colonial currency which was then at the depreciated value of seven for one sterling. The prices were: for English brick, £6; for New England brick, £3, 10s; for South Carolina brick, £5.

The town regulation of produce markets and bakeries was much more generally customary. Most of the towns maintained public markets; and the rules of some of them, of Augusta, Ga., in 1818 for example, were quite mediæval in their emphatic prohibition of engrossing, forestalling, and regrating. The bakers in the towns were quite generally required by ordinances to sell loaves of specified weights made of specified qualities of flour, at specified prices. The minimum weights of the loaves to be sold at the standard prices were made to vary according to the price of flour; and as a rule the town clerk would have the duty of publishing the "assize of bread," stating the current price of flour per barrel and the prescribed minimum weights of loaves for the week. In some cases the bakers resisted and defeated the attempts at public regulation; and in Augusta, in 1808, a municipal bakery was proposed to save the public from spoliation through the greed of the bakers. But it seems that nothing came of the plan.

In the latter part of the ante-bellum period, the most striking items in the line of public regulation of industry were the efforts by state enactment or city ordinance to diminish the opportunity of negro artisans, whether slave or free, for the benefit of their white competitors in the trades. Particularly in cities like Atlanta where white workingmen were numerous, they were disposed to use their ballot-box privilege in bringing pressure for class advantage. They secured numerous laws and ordinances aimed at driving away free negroes altogether and at prohibiting non-resident slaveowners from sending their

slaves into the towns, or resident slaveowners from hiring artisan slaves to any other employers. Most of these restrictions, however, like the earlier limitations of wages, were rendered dead-letters, because the interests of the slaveowners and the employers of labor were generally of more influence in determining city routine than were the combined alertness of the white artisans and the zeal of the public functionaries.

Bibliography.—Bruce, P. A.: *Economic History of Virginia in the Seventeenth Century* (2 vols., New York, 1896); Clayton, A. S.: *Compilation of the Laws of Georgia Passed between 1800 and 1810* (Augusta, 1813); Cooper, Thomas, and McCord, D. J.: *Statutes at Large of South Carolina* (Columbia, 1836-49); Hening, W. W.: *Statutes at Large of Virginia* (13 vols., New York, 1823); Marbury, H., and Crawford, W. H.: *Compilation of the Laws of Georgia* (Savannah, 1802); Phillips, Ulrich B. (ed.): *Plantation and Frontier Documents* (Cleveland, O., 1908), and "The Slave Labor Problem in the Charleston District" (in the *Political Science Quarterly*, Vol. XXII, pp. 416-439).

Ulrich B. Phillips,
Professor of History, Tulane University of Louisiana.

ECONOMIC ACTIVITIES OF THE CONFEDERATE GOVERNMENT.

The industrial resources of the South in 1861 were greatly inferior to those of the North. The exigencies of the war accentuated the difference. The wealth of the South consisted chiefly of its lands and crops; and owing to the stringency of the Federal blockade the leading crops, cotton and tobacco, could not be realized upon. Largely as a result of the plantation system its mines and forests had not been developed and could not be exploited. The iron, salt, saltpetre, clothing, and other industries were too embryonic to constitute an asset in the war. Railroads were quite inadequate and did not furnish

the necessary means of transporting troops and supplies.

The Confederate government was poorly fitted to undertake the task of creating and controlling the Southern industries with a view to supplying its armies with the material resources with which to carry on the four years' war. In every direction it found insuperable difficulties. While the military leaders were organizing their armies and displaying the highest strategic skill in thwarting the efforts of the invading armies, the treasury and other officials were concerned with the herculean task of finding and collecting the necessary food and forage, arms and ammunition, clothing and hospital stores.

Food existed in sufficient quantities in the agricultural South, and in the sections not overrun by the enemy crops were abundant. But not having an ample revenue at its command, the government could not readily buy in the open market, and tried to compel the farmers to sell at reduced prices, which they were little inclined to do. As a result, farm produce was withheld by the producers and could only be secured by more or less forcible "impressment," which in parts of the South, notably in upper North Carolina, created much opposition to the war as conducted by the Richmond authorities.

The supply of arms was largely obtained from the United States arsenals, which were taken over by the Confederacy in 1861, and by importation from Europe. A few gun factories were started, but languished owing to scarcity of skilled artisans. The absence of such mechanics was felt in many industries. Without them coins could not be minted, even if the flood of paper money had not prevented it, and the engraved and printed notes were necessarily somewhat crude.

Cannon were more extensively produced in the

South; in Augusta, Columbus, and especially in Richmond, the iron foundries were operated practically as government enterprises, as were some iron mines in Alabama. The scarcity of saltpetre and the difficulty of manufacturing ammunition were a constant source of anxiety. The government established a Nitre Bureau to collect all the available raw material. It assisted private capital in establishing saltpetre works and powder factories, and established and operated some itself.

Little clothing was manufactured in the South during the war. Textile works and a variety of other factories led a precarious existence; the raw material, skilled labor, and the necessary men were lacking. For the supply of ordinary commodities the government, like individuals, fell back on the accumulated stock of the past. The four years of war used up this accumulation of capital, and left the South bare in 1865. This wholesale destruction of all forms of capital, even the most permanent, added to the evils of the Reconstruction, reduced the South to a condition from which it only slowly recovered. For instance, the railroads could not be kept in repair during the war. They were reduced to a pitiable condition, and could not play the prominent part in the strategy of the war which they did in the North. Subsidies by the Confederate and states governments did not help matters appreciably.

Salt was at first obtained by evaporating sea water until the coast was overrun by the Northern armies. The state of Virginia operated the salt works in the southwestern corner of the state till late in the war, and reluctantly allowed a share of the product to the other states. The demand for medicines was largely met by smuggling them through the blockading fleets or across the Mexican border. Government distilleries were established

and led to differences with various state governments.

The Confederate government did all in its power to secure supplies from abroad. Under the policy of relieving the planters with loans of notes or bonds it held large amounts of cotton and tobacco. These it made strenuous efforts to export and exchange for the much needed munitions of war. A "Cotton Bureau" in Texas served that particular purpose. The government's leading activity centered about its efforts to realize upon the stock of cotton and tobacco on its hands. Europe and even the North were willing and anxious to give the much needed supplies in exchange for the raw materials. The government became an ardent trader, either on its own account or through private concerns, especially in Charleston, in carrying on this traffic across the Mexican border, with the West Indies, and through the military lines on the North. The Confederacy thus faced conflicting results, that of benefiting the enemy and foreigners, and that of benefiting its own cause. Regulations were aimed at forbidding such traffic as undermining military discipline, and, in direct conflict with these, at encouraging the proffered means of arming, clothing, and healing its soldiers. A policy of free trade, aimed at encouraging the importation of foreign supplies, was first adopted, but was later changed to one which forbade exportation, partly as a means of coercing Europe into recognizing the Confederate states. Exceptions were, however, made in favor of the governments engaging in the export trade, and of individual exporters who shared their tonnage with the government.

One effect of this restrictive policy and of its concomitant, the Federal blockade, was the growth in popular favor, of a protective tariff and similar

devices to restrict the home market to Southern producers. The war was thought to benefit the South in correcting its former dependence on Northern manufacturers, the resentment to which dependence had played a part in bringing on the war.

BIBLIOGRAPHY.—Capers, H. D.: *Life and Times of C. G. Memminger* (Richmond, 1893); Pollard, E. A.: *First, Second, Third Year of the War* (New York, 1863, 1864, 1865); *The War in America* (London, 1865); Rhodes, J. F.: *History of the United States* (Vols. III-V, New York, 1898-1904); Schwab, J. C.: *Confederate States of America* (New York, 1901, with a full list of authorities); Southern newspapers; State statutes.

JOHN C. SCHWAB,

Librarian, and Formerly Professor of Political Economy, Yale University.

ACTIVITIES OF THE FEDERAL GOVERNMENT IN SOUTHERN INDUSTRY AND COMMERCE.

THE earliest activity of the Federal government to influence Southern industry and commerce was the development and extension of the postal service. A colonial postal service under British control was succeeded by the post office establishment inaugurated by the Second Continental Congress in 1775, with Benjamin Franklin as postmaster-general. He was authorized to establish a line of posts from Falmouth in New England to Savannah in Georgia, with such cross posts as he might deem necessary. By 1789 this postal system had grown to embrace seventy-five post offices and 1,875 miles of post roads. It was placed under the jurisdiction of the treasury department of the new Federal government. A report of Samuel Osgood, who became postmaster-general in the fall of 1789, to Alexander Hamilton, shows that the service of the department to the

South was greatly limited by the excessively high rates of postage. For instance, the postage of a single letter from Savannah, Ga., to New York was thirty-seven cents.

The mails were carried in mail coaches and by post riders on horseback. They were uncertain and irregular. Up to 1789 a regular system of days and hours of departure had never been established farther Southward than Alexandria, Va. For the year ending Oct. 5, 1791, the gross receipts of all the post offices of the country amounted to but $42,255. Baltimore, with a gross revenue of nearly $4,000, and Richmond with nearly $3,000 were the leading Southern offices. The postal revenue at Charleston was little more than $1,200; at Wilmington it was $400, and at Savannah $200.

In 1792 the postal service was re-organized, and lower rates of postage were established. The rates were still so high, however, that private expresses competed with the government in carrying letters in some parts of the country. The growing business of the postal department is shown in the fact that, by 1801, the postal revenues in Virginia were nearly equal to those of the whole country in 1791, and the revenues in New York and Pennsylvania were even larger.

A factor in the development of the South was the activity of the Federal government in extending the postal service to the more remote parts of the country. Especially helpful were the appropriations of money for the construction and repair of post roads in the Southern territories. After the purchase of Louisiana, postal communication between Washington and New Orleans was inaugurated in the face of great difficulties. By 1824 the mail was carried from Washington to New Orleans in about twenty-four days. Beginning about 1830, three mails a week

were forwarded from Washington to New Orleans by way of Augusta in Georgia, and Mobile and Montgomery in Alabama. The mails to New Orleans were carried in four-horse post coaches, which also afforded conveyance for travellers. The whole trip was performed in a period of two weeks each way, through the capitals of Virginia, North Carolina, South Carolina and Georgia. After 1835 the carriage of mails by railroads was constantly on the increase, and, by 1860, the schedule time of the mail from New York to New Orleans was four and one-half days.

As the postal service became increasingly efficient, it was of great value to the cotton grower in bringing news as to conditions of supply and demand and as to price conditions in the principal markets. In the days of irregular and infrequent postal service, it was sometimes possible for cotton buyers in the North to enter upon very profitable speculations by taking advantage of a sudden rise in price through private expresses sent to the South in advance of the mail. Even mail contractors forwarded such expresses by relays of horses until prohibited. The improvement of the postal service gave less and less opportunity for such speculative ventures.

Another one of the Federal government's activities of economic importance to the South was the maintenance of a military pension system. The First Congress, in September, 1789, provided for the continuance by the United States of the pensions which, under Congressional authority, had been granted and paid by the States to Revolutionary invalids. In the course of time, national pension legislation on account of the Revolutionary and later wars grew liberal to the point of extravagance. The Federal government paid roughly about $69,000,000 in pensions to Revolutionary soldiers and their

widows, almost all of it before 1865. Up to the beginning of the War of Secession the national expenditure for military pensions of all classes had amounted to about $90,000,000, and there had been granted for military services 65,500,000 acres of bounty land.

Southern statesmen maintained that the operation of this pension system was exceedingly inequitable as to their section. In 1830 Senator Hayne, of South Carolina, claimed that the pension system was being maintained as a heavy charge on the treasury for the purpose of keeping up the system of high duties to which the South objected. He estimated that there had been distributed as pensions up to that time about $15,000,000 in the North, and about $5,000,000 in the South and West. If the system was to degenerate into a mere scheme for the distribution of the public money, he thought the South had a right to complain of its gross inequality. In Hayne's view, under the existing tariff arrangements, the South was paying the greater portion of the duties which supplied the treasury, and the public money was being expended chiefly in the North. Of $29,609,000 expended by the Federal government in pensions in the years 1791 to 1833, inclusive, New York received $6,186,000; Massachusetts, $3,331,000; Pennsylvania, $2,664,000; Maine, $2,115,000; Connecticut, $1,942,000; Vermont, $1,923,000; New Hampshire, $1,697,000. In contrast to this, Virginia received $1,649,000; Kentucky, $1,192,000; and no other Southern state as much as a million dollars.* Such figures go far to explain Southern opposition to the growth of the national pension system.

Activity of the Federal government for the promotion of agriculture began with work done by the Patent Office. From 1839 to 1853, inclusive, Con-

Executive Documents, 2d Sess., 23d Cong., 1834–1835, iii, No. 89, p. 32.

gress appropriated a total of about $39,000 out of the Patent Office fund for the collection and distribution of seeds, for the publication of reports on plant diseases, for the procuring of agricultural statistics, and for other similar purposes. Beginning with 1854 the appropriations for agricultural work were largely increased. In the later fifties, new plants were imported, including the Chinese yam and the Chinese sugar cane (sorghum); the government propagated and distributed large quantities of sorghum seed; special investigations were made and published of the habits of insects infesting the cotton and other plants; and an attempt was made to introduce and encourage the cultivation of the tea plant in the Southern states.

Other Federal activities of importance to Southern industry and commerce are discussed under special topics. Such are the management of the public lands; Federal aid to the improvement of harbors, waterways and roads; aid to navigation by the lighthouse establishment and the coast survey; the establishment of the two United States banks; the collection of economic statistics; efforts to promote the growth of the merchant marine; and the maintenance of the national protective tariff policy.

BIBLIOGRAPHY—Cushing, M.: *The Story of the Post Office* (Boston, 1893); Fairlie, J. A.: *National Administration* (New York, 1905); Glasson, W. H.: *History of Military Pension Legislation in the United States* (New York, 1900); Swank, J. M.: *History of the Department of Agriculture* (Washington, 1871); Lowrie, W., and Franklin, W. S., editors: *American State Papers, Post Office Department* (Vol. 27, Washington, Gales and Seaton); *Reports of the Postmaster General of the United States* (Washington, 1823 to 1865).

WILLIAM H. GLASSON,
Professor of Political Economy, Trinity College.

THE ECONOMIC INFLUENCE OF THE TARIFF POLICY OF THE UNITED STATES IN THE SOUTH.

Originally the idea of a protective tariff as advanced by Hamilton was by many as favorably received in one section of the country as in the other. Henry of Virginia, Macon of North Carolina, and the Pinckneys of South Carolina, fairly represented that class of people of the remoter South who, in the decade immediately following the establishment of the Federal government, urged the adoption of laws protecting, for example, the infant cotton industry. But the South, like the North, was divided. Jefferson and Madison with their free trade principles stood for tariff for revenue only, and Madison had succeeded in scaling down the protective demands of Pennsylvania in the tariff of 1789 to a revenue basis with only incidental protection. In 1807 when Gallatin's great scheme of internal improvements was offered; in 1816 when Calhoun made the same policy the *sine qua non* of national greatness, the part of the South that followed his lead was foremost in advocating a tariff as a means of raising the necessary revenue. Monroe wore "home-made clothes" on the occasion of his first inauguration; Richmond, Petersburg, Charleston, and Augusta were centres of agitation for home markets, and for excluding foreign competition by means of tariffs. But Robertson of Louisiana, Telfair of Georgia, Ross and Wright of Maryland, and especially John Randolph of Virginia, bitterly opposed a protective tariff, and forty of the fifty-four opposition votes to the bill of 1816 came from the South.

When the tariff policy of 1816 was discussed, the South was extremely hostile to England, for it was

the South that waged the second war with Great Britain. But the rapid development of the cotton industry brought the cotton planter into closer relations to Europe. The great market for the new commodity was the manufacturing district of England. And selling their greatest crop in Europe, as do South Americans to-day, the planters naturally bought their supplies there. Instead of seeking to bind New England and the South closer together, the Federal government sought to carry out a policy which had the opposite effect: the South already inclining towards England yet willing to pay a reasonable tariff on her imports was asked year by year to pay an ever-increasing tax in order that the manufacturers of New England and Pennsylvania might rid themselves of all competition.

So that by 1820 a change of sentiment began to appear in South Carolina and in the tobacco regions of Virginia, Maryland, and North Carolina, and only four Southern votes, one each from the industrial sections of these states, were cast for a protective tariff bill.* In 1824 only one Southern vote could be found in Congress for the tariff bill of that year. Before 1830 Petersburg and Charleston were as clamorous for free trade, or the lowest practicable tariff, as they had been for the opposite policy two decades earlier. Even the boycotting of all protected articles of common use was attempted in certain sections of Virginia.†

What had taken place was this: Under the influence of the virtual exclusion of foreign goods during the War of 1812, and of the steadily increasing measure of tariff protection after its close, Eastern capital invested in shipping was transferred to manufacturing, while Southern capital invested in negroes

* Ballagh, J. C.: *Tariff and Public Lands*, 224–233.
† In Charlotte and Prince Edward counties, Virginia.

found increasing employment in cotton production. Before 1828 this transition in New England was fairly accomplished; and in Virginia and the Carolinas capital was gradually readjusting itself to the changing order. It was not until 1840 that the process was almost complete, notwithstanding the stimulus of high-priced cotton and cheap Georgia-Mississippi lands. But the change was forced by steadily pressing conditions, (1) the almost impossible communication between the farms of the back-country of the South and the market places of the North and East, or between the tidewater cities of the South and the West; and (2) the rising prices of plantation supplies due to increasing tariff protection. There could then be little or no profit in investing Southern capital for the production of manufactured supplies for Northern and European markets, and whether they would or not, Southern men were compelled to become exporters, especially of cotton or tobacco, and cotton chiefly as that was more profitable and the newer lands in the lower South were admirably adapted to that industry.

The tariff policy of the Federal government helped to hasten, therefore, the cotton planting industry, and by increasing the cost of maintenance of farms and small plantations the diffusion of negro-slave property throughout the hill-country of the Old South was made impossible. The smaller proprietor was left adrift, and not until after 1850 did the South begin to realize, as did Jefferson and his friends in 1800, the importance of the hill-country as a nursery of middle class land owners. In fact the thrifty farmers of the whole Piedmont region, finding little or no profit in raising produce for distant markets like Philadelphia—the home market of the protective system—migrated southward and became large-scale cotton planters. One great result of the

War between the States was the increased development of the small farmer class and the employment in the South of its surplus population.

The expanding property interests of the South, located mainly in what is known as the black belt, entered upon a fierce struggle to control national legislation in order to protect its economic system. Eastern interests with Massachusetts, New York, and Pennsylvania as their base of operations, endeavored with equal determination to thwart their rivals and build up their commerce and manufactures. The South was acting upon economic motives quite as much in demanding the annexation of Texas as were her opponents in resisting this movement. Beginning in the second decade of the Nineteenth century with the tariff-made necessity of growing cotton and sugar, owners of Southern capital found it essential, by 1840, to expand the area of their operations very much, as the increasing number of Northern manufacturers required new and growing markets.

When the Southern capitalists undertook as a secondary result of their successful management of the campaign of 1844 to reform the tariff, they found it far more important to guarantee their interests than to destroy those of their opponents. By continuing a very substantial measure of protection to Pennsylvania enterprises they secured sufficient Northern support to make sure of their own supremacy. The Eastern and Northern product of the protective system was a solid North; the Southern and Southwestern was the black belt, or the consequent solid South, and neither of these sections, whether under the leadership of Whig or Democratic statesmen, failed on occasion to drive sharp bargains. One of them asked for privilege in the form of a high tariff, the other demanded the right to expand and continue the

slavery system of production. Each expected the Federal government to guarantee its system of economy against the interference of the other.

This sectionalizing of the material interests of the country, at once a cause and a result of national policy, early and naturally produced a public sentiment in the sections not averse to local independence, and when the railway-building epoch came the isolated and rival economic communities sought to unify and strengthen themselves at the risk of national integrity. Northern railroad construction to 1860 bound together North and West. The same thing was done in the South, and Norfolk, Charleston, Mobile, and New Orleans, like Boston, New York, Philadelphia, and Baltimore, were to be gateways to Europe, not to the North. England was to be the manufacturer for the expanding cotton kingdom. A strong group of leaders, whose organ was *DeBow's Commercial Review,* urged this development from the mid-forties till 1860. Dudley Mann of Virginia, a captain of industry of much influence, the Holts of North Carolina, and politicians, like Jefferson Davis, advocated strenuously the building-up of Southern ports at the expense of New York and Boston, and of railroads as feeders for their own seaports.

Yet from 1853 to the close of the war the South favored on its own account a moderate protective policy, viewed theoretically, with the exceptions stated, from the time of Madison's programme of 1789 as a continuous revenue tariff policy, and her leaders now turned their attention to schemes for internal improvements very much as the whole country had done between 1815 and 1820. Manufacturing was resorted to both as a means of supplying local wants and of developing the hill-country and its restless population. In North Carolina alone

there were more than forty important plants; in South Carolina the cotton-mill industry gave immediate promise of the development of recent years. In cotton manufacturing the growth between 1850 and 1860 was more than 100 per cent., offering a local market for about 100,000 bales per annum. Whether this was due to any considerable extent to the influence of the national example can not with accuracy be determined, but it was at least a significant parallel.

Notwithstanding the intimate relations of the South and England, and the interest of both in free trade, many of the representative men of the "cotton kingdom" had a liking for moderate protective laws such as had been established in 1816. While the tariff of 1846 was avowedly a free-trade measure, most industries of importance found shelter in the "incidental protection" so well arranged by the able Southern secretary of the treasury, R. J. Walker—the author of the law. Again, in 1857, the same tender feeling for the long-established system, either avowedly or "incidentally" protective, was manifested, notwithstanding the positive language of the Democratic convention of 1856 on the side of free trade. But the solid opposition of the South was raised by the Morrill tariff, and when it was passed by a strict Republican vote before the crisis of secession, it afforded an evidence cited in Europe by the South as the chief cause of separation. Though the conventions and law-making bodies of the Confederacy declared against protection, the real feeling of some able public men was that under the name of free trade a new sort of protection, not an American but a local policy, protecting in some way home industries against the North, was desirable, even before the great question of political independence from the North was finally settled. The

policy of the United States, during the forty years of its advocacy of the doctrine of protection, had so influenced these minds that they thought there was no way of avoiding a somewhat similar line of local procedure now that the South had developed industries of the greatest importance to the Confederacy. But the diplomatic and official action of the Confederate Government, in promising both Europe and the United States that no tariff except a necessary revenue tariff on merchandise would be levied, shows that the majority of Southerners remained true to their free trade and agricultural principles.* Thus the tariff, contrary to the original national intention, developed sectional groups, and in the South accentuated the growth of the plantation belt. Indirectly it taught the new planter class to look to the national government for general protective legislation at the same time that they resisted a protective tariff as an American revenue system.

BIBLIOGRAPHY.—Ballagh, J. C.: *Southern Economic History: Tariff and Public Laws* (Amer. Hist. Assoc. *Reports* 1898, Washington, 1899); Chapman, S. J.: *The Cotton Industry and Trade* (London, 1905); DeBow, J. D. B. (ed.): *DeBow's Commercial Review* (New Orleans, 1846-1870); Dew, T. R. and others: *The Pro-Slavery Argument* (Charleston, 1852); Emery, H. C.: *Economic Development of the United States* (in *Cambridge Modern History*, Vol. VII, London, 1903); Phillips, U. B. (ed.): *Documentary History of American Industrial Society* (Vols. I-II, Cleveland, 1910); Rhodes, J. F.: *History of the United States from the Compromise of 1850* (7 vols., New York, 1892-1906); Schwab, J. C.: *The Confederate States of America* (New York, 1901); Stanwood, E.: *American Tariff Controversies* (2 vols., Boston, 1903); Taussig, F. W.: *Tariff History of the United States* (New York, 1888); Thompson, H.: *From the Cotton Field to the Cotton Mill in North Carolina* (New York, 1906); Watkins, J. L.: *King Cotton* (New York, 1908).

WILLIAM E. DODD.

Professor of American History, University of Chicago.

*Ballagh, J. C.: *op. cit.*, 234, 235.

2. Finance.

THE FINANCES OF THE SOUTHERN CONFEDERACY.

The financial problems confronting the Confederate government were centered in the great problem of securing the material resources with which to carry on the war.

The seizure of United States funds at the Southern customs houses and mints furnished roughly one million dollars. Donations of money and other valuable articles yielded something. The specie held by the banks was quite generally transferred to the Confederate treasury in exchange for the bonds of the 15 million loan of February 28, 1861, which authorized an issue of 10-year 8 per cent. bonds, the interest being payable out of the proceeds of a small export tax on cotton. This first loan was by far the most successful of a long series. The specie it secured for the government was largely sent abroad and used for the purchase of ships and war supplies, both of which were of the highest value to the government.

Later loans provided for much larger amounts of bonds—150 millions during 1861. These were not readily taken by the public. Being presumably redeemable in notes, they sank in value with the paper currency. Of the two forms of the government's promises to pay, the public preferred to accept the notes, which could more readily be passed on, while the bonds had to be held as an investment. Legislation was designed to induce people to buy and lock up the bonds, instead of preferring to circulate notes. Inducements were offered to noteholders to exchange their notes for bonds. This provision, first intro-

duced in the loan act of May 16, 1861, was repeated in those of August 19, 1861, and April 12, 1862, but did not prove effective. At the suggestion of the Secretary of the Treasury, C. G. Memminger of South Carolina, some compulsion was added in the act of October 13, 1862, and notes not "funded" in 8 per cent. bonds within 6 months were thereafter exchangeable only for 7 per cent. bonds. The funding act of March 23, 1863, went further, and provided that if not funded within four months, the privilege lapsed. Some 100 millions of notes were thus actually converted into bonds, though their place was at once more than taken by further issues. Finally, the drastic law of February 17, 1864, provided that notes should be funded in bonds before a certain date, and that those thereafter remaining in circulation should be taxed out of existence. The law proved to be as ineffective as its prototypes during the French and the American Revolutions had been, and marked the complete collapse of the Confederate finances.

From the spring of 1864—G. A. Trenholm of Charleston became the Secretary of the Treasury in June—the Confederate finances went from bad to worse, and contributed nothing to the effectiveness of the military forces, which kept up their resistance till the final catastrophe in 1865.

After the first loan of 1861 the further issue of bonds did not find a ready market, and when the bonds were sold for notes, the treasury was supplied with a mass of depreciating notes with which it became increasingly difficult to buy supplies. To avoid this difficulty a series of produce loans was attempted beginning with the act of May 16, 1861, by which it was hoped to obtain supplies for the army by offering bonds in exchange. The only commodity the government found little difficulty in obtain-

ing by the offer of bonds or notes was cotton. The planters could not sell or export their cotton, and were very willing to pass over the title to their harvested crops to the government in exchange for such bonds or notes, upon which they could at least realize something. This policy was urged upon the government with a view to relieving the cotton-planters, who were cut off from their accustomed market by the Federal blockade. The government accumulated a large stock of cotton and some tobacco, which was of no value in feeding or arming the military forces, and largely remained on its hands during the war, deteriorating rapidly from exposure to the elements and to the destructive fortunes of war.

Some of the cotton was used by the government as a basis for effecting a foreign loan in 1863, by which 15 millions of bonds were floated in Europe, the principal to be repaid in the government's cotton at 6 pence a pound, a much lower price than it then brought or presumably could bring for many years. By mismanagement the government lost a large part of the proceeds of the loan, while the foreign bondholders lost everything, the bonds, like all the other obligations of the Confederacy, being wiped out by the outcome of the war, and the hypothecated cotton never becoming available. The only parties to materially gain were the foreign merchants and shipbuilders with whom the Confederate agents had dealings.

As in the Revolutionary War, taxation was delayed and never emphasized by the Confederate government. After some delay in collecting the necessary *data*, the Secretary of the Treasury was authorized on August 19, 1861, to levy a general property tax of ½ of 1 per cent., the amount to be apportioned among the states. The assessment and levy proceeded very slowly, and no revenue was collected

before the middle of 1862. During the next year about 18 millions were paid in. The apportioned amounts were generally assumed by the States and paid for by an issue of State treasury notes, so that this first Confederate tax was really a disguised note-issue.

Later acts—of April 24, 1863, February 17, 1864, June 10 and 14, 1864, March 11, and April 1, 1865—nominally created an onerous system of taxes, but their administration was lax, and the amount they produced relatively small. State and municipal taxes played a similarly small part in local finances, reliance being everywhere put on the issue of bonds and notes.

To meet the difficulty of buying supplies at exorbitant prices with the paper money revenue of the government, taxes in kind were introduced in April, 1863, but no substantial support was thereby given to the armies, and they generally lived on what they could appropriate on their marches. Most of the accumulated wealth of the South, its industrial capital and the harvests and products during the four years' war were sacrificed to the support of the troops or were destroyed by them or by the invading armies.

BIBLIOGRAPHY.—Bigelow, J.: *France and the Confederate Navy* (New York, 1888); Capers, H. D.: *Life and Times of C. G. Memminger* (Richmond, 1893); Davis, J.: *The Rise and Fall of the Confederate Government* (2 vols., New York, 1881); Pollard, E. A.: *First, Second, Third Year of the War* (New York, 1863, 1864, 1865); *The War in America* (London, 1865); Rhodes, J. F.: *History of the United States from the Compromise of 1850* (Vols. III-V, New York, 1898-1904); Schwab, J. C.: *Confederate States of America* (New York, 1901, with a full list of authorities); Smith, E. A.: *History of the Confederate Treasury* (*Pubs. of the Southern Historical Assoc.*, March, May, July, 1901); *Official Records: A Compilation of the War of the Rebellion* (Washington, 1880-1901, 130 vols.); Southern newspapers; State statutes.

JOHN CHRISTOPHER SCHWAB,

Librarian, and Formerly Professor of Political History, Yale University.

THE STATE FINANCES OF ALABAMA.*

When Alabama was admitted to the Union in 1819, the fiscal machinery to which its people had become accustomed under the territorial government was continued without any great change. During the territorial period expenditures were small, and as the officials were paid largely by fees and commissions, it is impossible to determine the actual cost of government. The state began its existence in a time of financial stringency, when there was no incentive to legislative extravagance, and until 1836 ordinary expenditures increased very slowly. In 1836 the abolition of direct taxation for state purposes and the use of the profits of the state bank for running the government caused disbursements to soar upward. Expenditures rose from $77,853 in 1835 to $185,688 in 1841, but in 1843, after taxes were reimposed, they showed a tendency to shrink. The total contributions of the state bank and its branches to the ordinary expenses of government from 1836 to 1843 inclusive amounted to $1,107,461. The disbursements from 1848 to 1860 show a steady development of state activities; Alabama then began to look after the care of its defectives and the education of its youth. In the matter of internal improvements, the state did practically nothing before 1865, except to apply the funds donated for this purpose by the Federal government.

The extraordinary expenditures incident to the War of Secession were incurred chiefly for the military defence of the state and the care of the indigent families of Confederate soldiers. The total disbursements attributable solely to the war amounted to $10,920,400. The increase of expenditures during

*The material for this article was collected with the assistance of the Department of Economics and Sociology of the Carnegie Institution of Washington.

the war was due to the constant depreciation of state and Confederate currency as well as to the necessary enlargement of state activities.

The revenue law in force in the Mississippi Territory in 1807 embodied the salient features of the tax system of Alabama until 1848. The chief source of income was specific taxes on general property. The land grants to the state for specified purposes by the Federal government were relatively important sources of income also in the early period. Indeed, in 1824, 1833, and 1835 the income from the Federal donations was about equal to the total receipts from all other sources. In 1836 all direct taxes for state purposes were abolished, and provision was made for defraying the expenses from the profits of the state bank and its branches. In 1842, however, when it became evident that these payments were being made out of the capital rather than the profits of the bank, direct taxation was reimposed. From this date until the adoption of the constitution of 1868, the rates were partly specific and partly *ad valorem*. The heavy interest charge falling upon the treasury as a result of the debt created by the experiment in public banking necessitated heavier taxation than at any previous time in the history of the state, and the additional burdens aroused strenuous opposition in some of the rural districts.

Nearly the whole of the state's revenue in this period was derived from a few sources of taxation. In 1849 the tax on slaves and the tax on real estate constituted respectively 44 and 27 per cent. of the entire assessment. In 1853 the tax on slaves, real estate, polls, sales of merchandise, and money lent at interest constituted ninety per cent. of the entire assessment. Heavy taxation during the war was deemed inexpedient, and most of the war revenue was secured by loans.

The bonded debt of the state before 1861 was incurred for the purpose of providing the state bank with capital. The total bond issues authorized from 1823 to 1837 amounted to $15,940,000, but of this amount only $10,959,566 in bonds were actually sold. After the state bank was placed in liquidation in 1845 its remaining assets were applied to the reduction of the bonded debt, which by 1860 had been scaled down to $3,445,000. With the outbreak of the war the impracticability of heavy taxation caused the state throughout the struggle to meet all extraordinary and part of the ordinary expenditures by the issue of bonds and treasury notes. As a result, the public debt on May 24, 1865, stood at $16,439,732; of this amount $13,094,732, added during the war, and, like the war-debts of all the Confederate states, were declared null and void; the remainder ($3,445,000), a legacy of the days of "wild-cat banking," forms part of the present indebtedness of the state.

BIBLIOGRAPHY.—The material for this sketch was collected mainly from the State Department of Archives and History of Alabama, through the courtesy of the director, Dr. Thomas M. Owen. The amount of secondary material is as yet very limited; A history of the finances of Alabama is in course of preparation. The most available secondary works are: Trotter, Alexander: *Observations on the Financial Position and Credit of Such States of the American Union as Have Contracted Debts* (London, 1839); Fitts, J. H.: *History of the Bank of the State of Alabama*, in the *Proceedings* of the Alabama Bankers' Association, 1891; Knox, J. J.: *History of Banking in the United States* (New York, 1900); and Martin, William E.: *Early History of Internal Improvements in Alabama* (in *Johns Hopkins University Studies in Historical and Political Science*, XX, iv).

WILLIAM O. SCROGGS,
Assistant Professor of History, Louisiana State University.

THE FINANCES OF ARKANSAS.

At the organization of the territory of Arkansas, March 2, 1819, the first act of the territorial legislature was to declare that all laws of Missouri territory should be in force as fully as they had been in the territory of Missouri. The principal features of the revenue system of Missouri, thus imposed upon Arkansas, were territorial taxes on land, town lots, slaves over ten years of age, pleasure carriages, stores of merchandise, and privilege license taxes on practicing physicians, attorneys, and Indian traders. County taxes were on horses, mules, neat cattle over three years old, slaves, grist mills, saw mills, tan yards, distilleries, and county *capitation taxes* on able-bodied single men not assessed for property of the value of $200.*

By act of Jan. 24, 1816, the sheriffs were made ex-officio assessors as well as collectors, and such they remained, with some exceptions, until 1868. At first an appeal from an assessment was made to the county court, but later the appeal was made to the clerk of the circuit court. The fee system of compensation was in vogue in territorial days, as it is now, the early fees averaging 6 per cent. of the county and territorial taxes collected.

This revenue system remained practically intact during the entire territorial period (1819-1836), with the exception of the tax on realty. In 1825 the territorial tax on lands was reduced to $1.25 for each 100 acres, and the county tax was fixed at 25 cents. Houses were taxed separately from the land.

Reports by special committees to investigate the

* Laws of a Public and General Nature of the District of Louisiana of the Territory of Missouri up to the Year 1824 (Jefferson City, 1824). Cf also an admirable article by D. Y. Thomas, entitled, "A History of Taxation in Arkansas," in *Publications* of the Arkansas Historical Association, II, 43–90.

books of the auditors and treasurers in Territorial days indicate an average net revenue of $7,000 annually, and disbursements slightly in excess of this sum.* In 1832 the public debt did not exceed $2,000, and $13,310 worth of Territorial script was redeemed at the treasury and burned. Public expenditures during the territorial period were insignificant and were rigidly guarded, an account of $25.60 for stationery in the adjutant-general's office being the subject of special consideration.

With the admission of Arkansas as a state, June 15, 1836, the budget of revenues and expenditures greatly increased. Thus, at the close of the second fiscal year under the new state administration, the current expenditures were $65,174; receipts from all sources, $36,814; state debt, $46,335.†

These increasing expenditures were made the more onerous because the first and second acts of the General Assembly of the new state created two "wild-cat" institutions, in which it invested the state funds: the Real Estate Bank and the Bank of the State of Arkansas. The State Bank was purely a state institution, owned and controlled exclusively by the state, while, in the case of the Real Estate Bank, the state issued bonds as a guarantee that the stock subscriptions secured by liens on unencumbered real estate would be paid. Both institutions proved miserable failures, and an additional debt of $3,030,000 was saddled on Arkansas as a result. The white population of Arkansas at this time was only 47,700, making an indebtedness of $63 per capita.

As a sequel to the establishment of these banks came repudiation. During the panic of 1837, $500,000 of the Real Estate Bank bonds were deposited with the North American Trust and Banking Com-

* *Journals* of the General Assembly, 1832, p. 167.
† *Ibid.*, 1838, p. 159.

pany of New York City, as collateral for a loan of $121,336. This trust company sold the bonds to James Holford, a London banker, for $325,000, without the consent of the state and without waiting for the state to redeem its pledge and take up its collateral security. These bonds, known as the "Holford Bonds," were repudiated by the Fishback Amendment in 1884, on the ground of there being fraud and breach of faith in the sale by the trust company.

The principal sources of state revenue before 1865 were the property taxes of one-fourth of one per cent. on the assessed value of lands and town lots, with all improvements; taxes on personal property of a designated kind, and on slaves; and occupation and privilege license taxes on peddlers, Indian traders, river traders, taverns or saloons, billiards and nine pins. Very few varieties of personal property were subject to taxation, and little revenue was derived from this source. The poll tax, now peculiar to the Southern states, was prohibited by the first state constitution of Arkansas, except for county revenue.

The debt of Arkansas in 1860 was $4,036,952, most of which represented the unfortunate investment in the bonds and stock of the Real Estate and State banks. In 1865, this debt was $4,527,879,* exclusive of the debt, estimated at $2,000,000, incurred in aid of the war between the states, which was repudiated. The assessed value of property in 1860 was $180,211,330, of which slaves represented $45,075,417. In 1865 the appraisement showed only a total valuation of $38,723,449, which meant a loss in property values and in increase of debt due to the Civil War of $98,903,391.† The cost of the state government

* Affairs in the Late Insurrectionary States, 42d Congress, 2d Session, pp. 183–188. Arkansas. Cf. also S. S. Cox, *Three Decades of Federal Legislation*, p. 542.
† *Ibid.*, pp. 184 and 331.

for a biennial period in 1860 was $408,394.98, with an estimated revenue of $635,398.00 from state, county, and city taxes. By 1865 the expenses of government for a biennial period had fallen to $150,000, with a corresponding revenue.

BIBLIOGRAPHY.—Brough, C. H.: *The Industrial History of Arkansas* (*Publications* of the Arkansas Historical Association, I, 191-229, Fayetteville, 1906); Hempstead, Fay: *Pictorial History of Arkansas* (New York and St. Louis, 1890); Thomas, D. Y.: *A History of Taxation in Arkansas* (*Publications* of Arkansas Historical Association, 43-90, 1908); Acts of Arkansas (Little Rock, 1836-66); *Journals* of the General Assembly (Little Rock, 1820-35); *Journals* of the House of Representatives (Little Rock, 1836-66); *Journals* of the Senate (Little Rock, 1836-66); Laws of a Public and General Nature of the District of Louisiana, of the Territory of Missouri, etc., up to the year 1824 (Jefferson City, 1842); Laws of the Territory of Arkansas (*Arkansas Post*, 1820); *Reports* of the Auditor, showing the amount of the public debt on account of the State and Real Estate Banks (Little Rock, 1868); *Reports* of the Auditor, biennial (Little Rock, 1838-66); *Reports* of the Treasurer, biennial (Little Rock, 1838-66).

CHARLES HILLMAN BROUGH,

Professor of Economics and Sociology, University of Arkansas.

THE FINANCES OF FLORIDA.

FLORIDA as a territory (1821-45) had the bulk of the general expenses of her government paid out of the national treasury. In 1832 it was estimated that the national government was spending annually in behalf of the territory not less than $47,000, while the territory itself was contributing only about $8,000.* To raise her small quota of revenue the territory divided land into three grades which were assessed ½, ¼, and ⅛ of a cent respectively per acre; town lots were assessed at the rate of 5 cents per $100 of value; slaves (15-50 years old) at 25 cents each; free negroes (21-60 years old) at 50 cents

* Governor's Message in the *Journal of the Legislative Council, 1832.*

each; merchants, 5 cents per $100 of gross sales; innkeepers, $5 each; liquor retailers, $2; billiard tables, $50; pleasure carriages, $1; auctioneers, 2 per cent. on gross amount of sales. Later the tax on free negroes was increased to $10 and that on slaves to 50 cents and some other increases were made,† while banks were in some cases taxed on gross profits.‡ These laws were loosely enforced—in 1837 it was reported that some counties had never paid any taxes, while the tax arrears for the six preceding years was estimated at $23,777. Such delinquencies led to the issue of interest-bearing treasury notes,§ most of which seem to have been redeemed¶ though not before they had circulated at a depreciated value.**

In 1835 the territory made the mistake of guaranteeing the bonds of three banks to the amount of nearly $4,000,000.†† These banks soon failed and left the territory liable for a large amount of unredeemed bonds, the annual interest on which was many fold greater than the total annual revenue of the territory. This obligation was practically repudated by the territory, and it was not assumed after the state form of government was adopted in 1845.‡‡

No essential change in the revenue system was introduced when Florida became a state, though the increased expenses led to increased rates and the assessment of a few additional subjects. The taxes from lands and slaves properly formed the chief support of the state treasury, though assessments were still upon the unit basis. Whites were assessed a poll tax of 50 cents, while free negroes paid $3.00.

* Act of 1832. Duval, *Compilation of Public Acts of Territory of Florida* (1839), 309-313, 339.
† *Ibid.*, 319.
‡ *Ibid.*, 467, 473.
§ Duval, *Commilation* (1839), 76.
¶ *Journal of the Legislative Council*, Appendix
** Governor's Message, 1832.
†† Duval, *Compilation* (1839), 442-454, 463-466, 467-474.
‡‡ D. Y. Thomas, *History of Banking in Florida* in MS.

Moreover an income tax was introduced and was continued until 1855, but this affected the incomes of only lawyers, doctors, and a few others, and brought very little into the treasury.* In 1855 the general *ad valorem* system of taxation was introduced, the rate being slightly less than two mills on the dollar. While this supplied the main body of state revenue it did not displace the poll tax and some other special taxes.† As a rule local taxes were assessed upon the same subjects and in the same manner as the state taxes, though usually at a lower rate. Between 1846 and 1860 the state revenue increased from about $50,000 to $115,000, the population increased in about the same proportion, while the taxable wealth increased at a much greater rate, being in the latter year about $70,000,000. The largest body of ordinary expenditures went to support the state judicial machinery and its work—the expenditures under this head amounting in 1860 to $80,000, of which $25,600 was for salaries, $31,200 for jurors and witnesses, and $23,200 for criminal prosecutions. The expenses of the executive department were only $5,600, and the session of the legislature cost the state abobut $15,000.‡ Occasionally extraordinary expenditures were incurred on account of Indian hostilities.§ The school funds derived from the sale of public lands and amounting to over $40,000 in 1860 were beginning to assume some importance in the state's financiering. Moreover, in 1855 the state entered upon a large policy of aiding railroads by land grants and by pledging the state internal improvement fund in guarantee of the interest on railroad construction bonds.** Bonds amounting to over

* *Laws of Florida*, 1845, chapters 11 and 28.
† *Laws of Florida*, 1855, chapter 715.
‡ Comptroller's Report. *Journal of House of Representatives of the Legislature of Florida*, 1860, 59.
§ Comptroller's Reports, 1856, 1860. Governor's Message, 1856. *House Journal*, 1856, 28–30.
¶ Treasurer's Report, 1860. *House Journal*, 1860, 62.
** *Laws of Florida*, 1855, chapter 610.

$3,500,000 were thus guaranteed—a fact which, owing to the failure of the railroads, involved the internal improvement fund in great difficulties in the period after the war.

The revenue act of 1855 was not essentially modified during the Civil War. Instead of increasing the taxes to meet the extraordinary expenses incident to the struggle, treasury notes, legal tender in payment of dues to the state, were authorized to an amount approximating $2,000,000.* It was thought that the public lands in the state just assumed through secession might guarantee the ultimate redemption of these notes, and certainly in the case of one issue the public lands were pledged for the redemption.† Notwithstanding this and the further fact that some of the notes were redeemed before others were issued they suffered a depreciation like those of the Confederacy and of the other states. When the war closed such outstanding obligations were of necessity repudiated.

Bibliography.—Brevard, C. M., and Bennett, H. E.: *History of Florida.* Part III contains a sketch of Internal Improvements under state direction and aid (New York, 1904); Fleming, F. P. (editor): *Memoirs of Florida.* Chapter XX gives the best available history of the Finances of the state including Banking, but the chapter as a whole should be used with caution (Atlanta, 1902); *Acts of the Territorial Council* (1822-1845); *Laws of Florida* (14 vols., 1845-1865); *Senate and House Journals* of the Legislature (1838-1865): *Annual Reports* of the State Comptroller; *Annual Reports* of the State Treasurer; *Special Census Report; Wealth, Debt and Taxation* (Washington, 1907).

Enoch Marvin Banks,

Professor of History and Economics, University of Florida.

---

* *Laws of Florida*, 1861, 1863, 1864.
† *Laws of Florida*, 1864, chapter 1463.

THE STATE FINANCES OF GEORGIA.*

During the colonial period the revenue of the province of Georgia was derived from the king's quit-rents, a tax on houses, lands, negroes, money at interest, stock in trade, and an import duty on rum. The annual expenses in 1773 were between three and four thousand pounds, and the quit-rents paid the greater part of them. The revenue of the Revolutionary period was derived from escheats, fines, and forfeitures, confiscation, import duties, and taxes laid on the same classes of property as under the crown. After the Revolution, the chief burden of taxation fell on land, with the addition of a poll tax, a tax on professions, license fees, and a tax on lotteries and on offices of deposit and discount. Until 1850 taxes were specific, after which they were levied on an *ad valorem* basis.

Annual appropriations were made for the expenses of the civil establishment, including the courts, for the military force, for interest and payments on the public debt, for the support of the penitentiary and the philanthropic institutions of the state, for education, public printing, and public buildings. All other expenditures were classed as "special." The largest of the special appropriations was that for internal improvements. Between 1810 and 1835 half a million dollars were directly appropriated to dig canals, clear rivers, and build turnpikes, besides the interest on half a million dollars appropriated in 1820-21. The state, however, profited nothing by this outlay. Between 1837 and 1851 the state spent five million dollars for the construction of the Western and Atlantic Railroad,

* Acknowledgment is made of assistance received from the Carnegie Institution of Washington in the preparation of this paper.

which, however, paid into the treasury, out of its earnings, two million dollars between 1854 and 1861.

Georgia's public lands were a great source of revenue, bringing in over six million dollars between 1800 and 1847, after which time they were nearly all granted. The first public debt of the state was defrayed by the sale of lands. The second debt, contracted between 1837 and 1851, to build the Western and Atlantic Railroad and to pay the liabilities of the Central Bank, was met by bond issues. In 1837 half a million dollars worth of bonds were issued for the Western and Atlantic Railroad, in 1840 a million for the liabilities of the Central Bank. In 1847 $375,000 and in 1851 $525,000 in bonds were issued for the railroad. This debt continued through the Civil War and was met from balances in the treasury otherwise unappropriated, and from earnings of the road.

The period from 1811 to 1820 was an era of banking experiments. The state became a large stockholder in the first four banks chartered, and found it a profitable investment. In one year alone, 1823, the dividends from the state's shares amounted to $1,005,000. Encouraged by this success, the Central Bank was organized in 1828 as the financial agent of the state, with the state funds as capital. In 1840 the bank failed and the state was almost bankrupt.

Taxes from corporations began to be of importance about 1840. Insurance companies were at first most lucrative, but were soon surpassed by railroads. In 1859, one hundred and fourteen insurance companies paid into the treasury $1,578.68, while the same year eight railroads paid taxes amounting to $11,217.77.

The financial legislation of the war was simply a heroic struggle to maintain the government, and to support the Confederacy. Every available means

of revenue was tried, every article of production or consumption except the barest necessities was taxed, and an income tax was levied besides. The expenditures were almost entirely for arms, ammunition, soldiers' clothing, and the support of the starving families of soldiers.

In 1859 the taxable values of the state were estimated at $379,627.92—in 1866 at $22,183.78. The assets of the state in 1859-60 were estimated at $943,400, besides the Western and Atlantic Railroad, then earning large returns. In 1866 the assets had dwindled to a little over $300,000, and the railroad was a wreck. In 1860 the public debt was $2,670,750—in 1866, after the repudiation of the Confederate debt, there remained still due by the state, $5,706,500.

Bibliography.—Anderson, J.; and Hobby, William, J.: *Contract for the Purchase of Western Territory made with the Legislature of Georgia in the year 1795* (pamphlet, Augusta, Ga., 1799); Banks, Enoch Marvin: *The Economics of Land Tenure in Georgia* (in *Columbia University Historical Studies,* Vol. XXIII, No. 1); Chappell, Absalom H.: *Miscellanies of Georgia* (Columbus, Ga., 1874); Harper, Robert Goodloe: *Observations on the North American Land Company* (pamphlet, London, 1796); Hull, Augustus L.: *A Historical Sketch of the University of Georgia* (Atlanta, Ga., 1894); Jones, Charles C., Jr.: *History of Georgia* (2 vols., Boston, 1883); Stevens, William Bacon: *History of Georgia* (2 vols., Philadelphia, 1857); White, George: *Statistics of the State of Georgia* (Savannah, Ga., 1848); *Acts Passed by the General Assembly of the Colony of Georgia, 1755 to 1774* (Ed. C. C. Jones, Jr., 1881; American State Papers, *Public Lands,* Vols. I and II; Collections of the Georgia Historical Society, Vols. I, III (Savannah, Ga., 1840); *Particular Case of the Georgia Loyalists* (pamphlet, Augusta, Ga., 1783); Constitution of Georgia, 1798; Georgia Statutes; *Reports* of Treasurer of the State of Georgia; *Reports* of Comptroller-General of the State of Georgia; *Messages* of the Governors of Georgia to 1850; *Reports* of the Superintendent and Chief Engineer of the Western and Atlantic Railroad to 1865.

Julia A. Flisch.

THE STATE FINANCES OF KENTUCKY.

On the organization of the State of Kentucky, as there was no revenue, the treasurer was directed to borrow money. The first revenue law, in 1792, established a 2 shilling, or 33 1/3 cent tax on each 100 acres of land, and on each able-bodied slave, also a small live-stock and wheel tax, and certain license taxes. Land was classified in 1793 and paid from 3 shillings to 9 pence per 100 acres. In 1794 town lots were taxed 3 shillings per £100. In 1797 the slave tax was reduced by six pence and in 1799 the land tax was varied from 34 cents to 12½ cents per 100 acres on the three classes of land recognized, while town lots paid 50 cents per $333 1/3 of value, and live stock and license taxes were retained.

In 1801 the land rate was raised to 50, 34, and 12½ cents, respectively, for the three classes. The first act of the first state legislature created an auditor to whom tax collectors, the county sheriffs, accounted before paying receipts to the treasurer, who was a legislative and not an executive selection. The taxable basis was first made up by county commissions.

Beginning with 1814, the owner of land placed its valuation in listing it for taxes. This was certified to the state auditor by the various counties, and he fixed the rate, the legislature having made up the budget. Procedure was changed in 1815, the legislature fixing a rate of 15 cents per $100 of value, lowered in 1822 to 6¼ cents, and raised successively to 10 cents (1834), 17 cents (1851), 30 cents (1862), and 40 cents in 1865, owing to the expenses of the Civil War.

The real property tax was the chief source of revenue, the taxable assessment rising from $21,408,090 in 1798 to $66,878,587 in 1815, and to $127,967,008 in 1834. Economy marked the early administration,

the revenues of 1793 being $16,400 and expenditures $16,493, of which only $4,300 were for official salaries. By 1834 the gross revenue, raised chiefly by the *ad valorem* tax on land, houses, and slaves, was $154,871.21, and the authorized expenditures $170,070.

Legislative indulgence and land jobbing, begun in 1798, lost to the state one of her greatest sources of revenue by land sales without regard to current value. Much was sold at ten cents an acre and more at from $20 to $40 per 100 acres before the best land was raised to a maximum of $60 per 100 acres. A better land policy secured by John Pope soon brought land payments to $700,000. By the payment of $300,000 in fifteen-year annuities, Kentucky secured from the Chickasaws 7,000,000 acres, but as late as 1854 she was selling vacant lands at the nominal price of 2½ cents an acre.

By fraud, in 1800, a produce-insurance monopoly was incorporated with banking privileges, from which the state received no revenue, and to husband her public land revenues a bank in which the state controlled half the stock and a majority of the directorate, was established in 1806. Following a carnival of independent banks from 1818 to 1821, state banks with branches were chartered; the Commonwealth Bank (1821), the Bank of Kentucky (charter repealed in 1823, re-chartered 1834), the Northern Bank of Kentucky (1835) and the Southern Bank of Kentucky (1839), the state taking from a third to one-half and two-thirds of the stock, for which it issued mostly 5 per cent. bonds. It also took stock in turnpike companies and slack-water navigation companies engaged in building locks in the navigable rivers of the state. An annual bank-stock tax of from 25 to 50 cents a share was levied, and together with these various stocks dividends was so large as to be set apart in 1836 as a sinking fund

for the public debt. The bank stocks were so profitable that Kentucky invested $1,000,000 in them as a school fund in 1837, and the interest on this was subsequently invested in bank stock or state bonds. From 1847 to 1857 semi-annual dividends paid by these banks rose from 2½-4½ per cent. to from 5-8 per cent., and in 1858 to 10 per cent. The state reserved the right also to require from time to time portions of net bank profits, aside from dividends. The entire net earnings for a year of the Bank of Kentucky were thus once taken.

The first Virginia act of separation (1786), rejected by Kentucky, proposed that she assume her portion of the Virginia public debt, and the second (1789) laid a "just proportion of the debt of the United States" on Kentucky,* and the state government began on borrowed funds. Kentucky's prompt payment, in 1837, of interest on her internal improvement script and state bonds enabled her to favorably negotiate $1,250,000 of state bonds in New York in 1838. By 1839 the total amount of state bonds issued was $4,635,000, of which $2,000,000 was for bank stock, $1,765,000 for internal improvements, and $850,000 for the Common School fund. The state aided its public schools by issuing to boards of education bonds, bearing interest which went into the school fund. In 1842 the legislature unanimously passed strong anti-repudiation resolutions, but this school-fund debt was practically repudiated in 1845, the bonds being burned, but later bonds were re-issued.

By 1849 the state debt had been reduced to $4,497,652, and the governor in his message said it could be further reduced by $1,270,000 if the state bank stock were sold. Since January preceding $112,329 had been paid off, and the state was now paying 5

* Hening, *Statutes at Large of Virginia*, XIII, 18.

per cent. interest on $1,158,268, and 6 per cent. on $67,500 more of school-fund bonds. In 1841 five cents added by the tax rate had been devoted to the sinking fund, and the constitution of 1850 limited the state's debt-contracting power (except for public defence, etc.) to $500,000, requiring every money measure exceeding $100 passed to be by a recorded majority vote of all members elected to both legislative branches.* In 1851 the sinking fund commissioners redeemed $225,000 of 5 per cent. bonds at a saving of $31,383, but the debt had risen to $5,724,307, from which it was reduced by 1857 to $3,592,412. By 1861 the sinking fund commissioners had cancelled $1,277,050 more of state bonds, and the school fund, a debt in name only, was $1,381,832.03.

During the Civil War the state borrowed heavily, the bonded debt, including school bonds, being about $5,250,000 in 1865. But the resources of the sinking fund were sufficient to meet it as it became due, except permanent school bonds which were not to be paid.

Though the revenues of 1851 were $641,388, the governor was authorized to borrow $100,000 for an anticipated deficit in 1852, and though the taxable basis had risen to $333,181,512, an increase of sixteen millions in one year, the revenue raised was only $594,926. By 1856 receipts had advanced to $822,510, and in 1857 to $988,444, owing to a three-cent school tax. From the first, state gifts and expenditures for education were liberal. In 1798, 30,000 acres of land were given to five academies, and $5,000 to Transylvania University in 1819 for a library. Governor Desha, in 1827, in the face of a deficit recommended that the proceeds from land sales, bank and road stock be perpetually devoted to

*Compare Root's resolution, *Report of the Debates and Proceedings of the Kentucky Convention of* 1849, 36.

education. In 1838 Kentucky set apart her share of the surplus distributed by Congress, $1,433,757, to establish common schools, and in 1840 the state paid for education $12 per pupil, and $181,000 more annually than she would have paid at the New York rate of $1.25 per scholar.

In appropriations for eleemosynary and penal institutions, the state was also liberal. Between 1848 and 1854 it appropriated $303,267 chiefly for lunatic asylums. Appropriations for public buildings were moderate, the first capitol being built largely by private subscription. Official salaries were low, and from 1843 to 1854 were reduced to increase the sinking fund. The legislative per diem and mileage was successively raised from $1 and from twelve cents, respectively, in 1792, to $4 and to fifteen cents in 1856. The Federal government was paid $168,928 as the state's part of the direct war tax for the War of 1812.

On account of her remoteness, Kentucky was interested as early as 1799 in slack-water navigation, and from 1828 to 1835, when a board of internal improvements was created, subscribed to turnpike road stock, $612,474. In 1851 railroad stock subscriptions amounting to $2,200,000 were authorized. Besides these subscriptions, direct appropriations for internal improvements, chiefly turnpikes, between 1834 and 1841, amounted to $2,193,500. In 1842 the state had to buy at auction the Lexington and Ohio railroad, sold to pay $150,000 and interest guaranteed by Kentucky, and lease it for operation. In 1865 Kentucky received $600,000 in specie as dividends from the Southern Bank of Kentucky (in liquidation), which was sold at such a premium as to net $937,080.

BIBLIOGRAPHY.—Allen, W. B.: *History of Kentucky* (Louisville, 1872); Butler, Mann: *A History of the Commonwealth of Kentucky*

(Cincinnati, 1836); Collins, Lewis: *History of Kentucky* (Covington, 1847); Colins, R. H.: *History of Kentucky* (2 vols., Covington, 1874); Marshall, Humphrey: *History of Kentucky* (2 vols., enlarged, Frankfort, 1824); Shaler, N. S.: *Kentucky—A Pioneer Commonwealth* (Boston, 1885); Smith, Z. F.: *History of Kentucky* (Louisville, 1886); *Acts of the General Assembly of Kentucky;* Governors' *Messages; Report of the Debates and Proceedings of the Convention for the Revision of the Constitution of the State of Kentucky* (Frankfort, 1849).

HARRY VERNON MCCHESNEY,
Formerly Superintendent of Public Instruction and Secretary of State.

THE STATE FINANCES OF LOUISIANA.

THE origin of the financial system of Louisiana may be found in the laws of the Orleans Territory. The revenue system there inaugurated in 1807 was continued by the state without great change until 1845. A very rapid development of state activities is indicated by the ante-bellum expenditures, which rose from $122,665 in 1815 to $2,396,135 in 1860. The increase was due mainly to the appropriations for education, charities, levees and drainage, and interest on the public debt resulting from state aid to railway and banking companies. In 1860 the interest payments alone were nearly double the entire disbursements of 1815 and about equal to those of 1823. From 1823 to 1860 expenditures for education rose from $32,531 to $390,440; expenditures for charity from $20,139 to $105,535; and expenditures for levees and drainage from nothing to $649,459. The last-named item of expense was a burden peculiar to Louisana and a heavy drain upon the resources of the state. The necessity of printing the public documents in both the English and French languages also entailed an expenditure from which the other states escaped. The rapid increase in expenditures in this period often made the task of

meeting them extremely difficult, and in 1853 it became necessary to issue bonds to the amount of $750,000 for the relief of the treasury.

Until 1845 the state derived its revenue mainly from an apportioned land tax, specific taxes upon slaves, live stock, vehicles, and the stock of banks and other corporations, and from license-charges upon certain businesses and professions. The constitution of 1845 effected a radical change in the revenue system by introducing the principle of *ad valorem* taxation, which has since been retained. In 1847 a special tax of one mill on the dollar was levied for the support of the public schools, and later an additional tax of one-fourth of one mill on the dollar was levied to meet the interest on the bonds issued in behalf of railway companies. The chief sources of income, in addition to those named above, were the poll tax, auctioneers' commissions, the sales and leases of school lands, and, after 1849, the sales of swamp and overflowed lands. Of total receipts (excluding temporary loans) in 1856 amounting to $2,023,869, the general property tax, licenses, and other items above-named contributed $1,911,323, or 94 per cent. As it became evident during the War of Secession that taxation would be an uncertain source of revenue, the state resorted to the issue of bonds and treasury notes to defray the extraordinary expenses incident to the struggle. The necessity of such a course is indicated by the fact that the total receipts (exclusive of loans) for the fiscal year 1860 were $2,238,703, while for the entire fifteen months from Oct. 1, 1864, to Dec. 31, 1865, they amounted to only $875,658.

The bonded debt of Louisana before 1861 was incurred chiefly for two purposes: to aid in the formation of banking companies, and to promote the construction of works of internal improvement. Be-

tween 1824 and 1835 Louisiana issued $18,354,000 in bonds in aid of various banking enterprises, and was also one of the first states to give public aid to railway building, issuing $1,098,000 in bonds for this purpose between 1837 and 1844. The total bonded debt in 1839 was $19,139,000, and was then larger than that of any other state except Pennsylvania. After the panic of 1837 most of the banking institutions in which Louisiana was interested went into liquidation, and the state, by the constitution of 1845, was forbidden to lend its credit to corporations or to subscribe for their stock. The constitution of 1852 repealed this prohibition, so far as corporations for internal improvement were concerned, and by 1861 the bonds issued in behalf of railways amounted to $4,031,000. The debt incurred for banking purposes had in the meantime been reduced to $5,398,-533. The total indebtedness of the state, including trust funds, on December 31, 1865, amounted to $11,-182,377; this sum, however, did not include the then worthless note and bond issues of the war.

Bibliography.—No adequate account of the financial experience of Louisiana has ever been written. Though the main sources of information are the public documents, some material may be obtained from the following secondary works: Trotter, Alexander: *Observations on the Financial Position and Credit of Such States of the American Union as Have Contracted Debts* (London, 1839); Knox, J. J.: *History of Banking in the United States* (New York, 1900); Sumner, W. G.: *A History of Banking in the United States* (New York, 1896); and Bourne, E. G.: *History of the Surplus Revenue of 1837* (New York, 1885).

William O. Scroggs,

Assistant Professor of History and Economics, Louisiana State University.

THE FINANCES OF MARYLAND.

The financial history of Maryland reflects with exactness the course of its material growth and its administrative development. At no time has there

been any important change in the organization of the state government or in the essential features of its economic life, without corresponding effect upon state finances. Similarly, each succeeding phase in fiscal life has left an enduring impress upon political administration and to a less tangible degree upon material development.

The first period in the fiscal history of Maryland is the colonial era, from 1634, when the Province of Maryland was founded at St. Mary's, to 1776, when with the events of the Revolutionary War, the proprietary government and its financial system were brought to an end. During this period of one hundred and forty-two years, Maryland derived its revenues very largely from direct taxation assessed by the poll. All persons resident in the province were "by even and equal assessment" subject in like amount to this charge, and in addition thereto various forms of tangible property—slaves, excess land holdings, silver plate, cattle—were constituted things taxable and declared parts of an additional poll to be levied upon respective owners. Import and export duties, special fees and allowances, and, after 1756, a land tax supplemented the poll tax. As the province grew in wealth, and as differences in economic capacity manifested themselves, the levy of a direct tax by poll, at best a crude and archaic device, became intolerably unjust. This hostility is responsible for the insertion in the " bill of rights " of the new state constitution, of the provision that " the levying of taxes by poll is grievous and oppressive, and ought to be abolished."

The second era in the development of Maryland's finances extends from the Revolutionary War to 1841, when the breakdown of the State's ambitious projects of internal improvement necessitated the imposition of practically the first direct tax ever

levied in Maryland, upon the capital value of general property.

The period was ushered in by a transition interval during which the financial system of the proprietary government had been abandoned and the fiscal measures of the new state government had not been put into operation. The government of Maryland during this interval was in the hands of a "provincial convention," and for the purpose of raising funds resort was had to subscription lists, which were in name voluntary, but refusal to contribute to which was enough to bring down punishment upon the recalcitrant.

With the firm establishment of state government in 1777 some approximation was had to a comprehensive system of taxation. In addition to various license and excise taxes, an income tax and a general property tax were imposed. The income tax had but a brief and unsatisfactory trial, being levied in 1777 and again in 1779 and thereafter disappearing; but the general property tax authorized in 1777, was put into successful operation and has defined the general lines within which the system of the state has since developed. The property tax was levied at intervals in the next generation, but ordinarily in small amounts and for specific purposes. Its larger usefulness was that the property assessment was utilized by the local civil divisions of the state for local taxes. There was no provision for general and continuing assessment, but at intervals the Legislature provided for the valuation of property throughout the state through the agency of "commissioners of the tax" and of "levy courts." There was constant effort to secure equalization of assessment, but this was attempted not by revision, but by the cruder devices of statutory classification of lands and fixed valuation of certain property forms.

After the War of 1812, the requirements of the state were so largely supplied from other sources of revenue that infrequent recourse was had to the general property tax. There was no further general assessment of property, but special acts continued to be passed by the Legislature providing for revaluation in the counties for local purposes. Eventually the powers of assessing property and levying taxes were placed in elected boards of county commissioners in whom was vested the general administration of the county.

From the close of the Revolutionary War, Baltimore had been the natural market for the agricultural products of the interior and western country. Active communication had long been maintained with this vast region; in early days by pack-horses, later by long wagon trains that traversed the great northern turnpikes as far as the Ohio River. The introduction of steamboats upon the navigable waters of the West displaced this means of transportation. Improved systems of communication had been established by New York and Pennsylvania, and a deflection of trade to these centres was threatened. Public-spirited citizens immediately began an agitation to supply the need, and the Chesapeake and Ohio Canal Company was incorporated in 1824 for the purpose of constructing a canal from tidewater on the Potomac to the Ohio River. Several years later, when estimates of the enormous cost of the canal rendered its immediate completion improbable, a supplementary project was proposed—a railroad from Baltimore across the mountains of the Ohio. In February, 1827, the first railroad charter granted in the United States was given by the General Assembly of Maryland to the Baltimore and Ohio Railroad. The work of actual construction was begun in the following year.

To aid and hasten these works of internal improvements the state of Maryland incurred large and dangerous obligations. It was universally expected that the direct profits attending their operation would not only obviate any direct contribution on the part of the state, but yield handsome revenues to the public treasury. By 1841 the bubble had burst and the state confronted the alternative of repudiation or heavy taxation to meet the accumulating obligations.

After a long bitter struggle the friends of state credit won. In March, 1841, for the first time in twenty-eight years, a general assessment of property was authorized throughout the state and a direct tax imposed on all property so assessed. The mere enactment of the law, however, fell far short of accomplishing the end desired. A long administrative struggle was necessary before public sentiment yielded to the inevitable and the modern period of state finance was actually ushered in.

The modern period in the financial history of Maryland extends from 1841 to the present time. It has been characterized by the development and differentiation of taxation, and by the growth of public expenditures to meet the larger demands of state aid to educational and charitable institutions as well as a wider extension of state activities by the reduction and refunding of the original debt created in aid of works of internal improvement.

BIBLIOGRAPHY.—Hanna, H. S.: *A Financial History of Maryland*, 1789-1848 (*Johns Hopkins Univ. Studies*, XXV, viii-x, Baltimore, 1907); Hollander, J. H.: *The Financial History of Baltimore* (*Johns Hopkins Univ. Studies in Historical and Political Science*, Extra Vol. XX, Baltimore, 1899); Adams, T. S. (Hollander, J. H., ed.): *Taxation in Maryland*, in *Studies in State Taxation* (*Johns Hopkins Univ. Studies in Historical and Political Science*, Series XVIII, Baltimore, 1900); *Maryland, Its Resources, Industries and Institutions* (Baltimore, 1893); Reisenstein: *In Economic History of Baltimore and Ohio Railroad* (*Johns Hopkins University Studies in Historical and Political Science*, XV, Baltimore, 1897); Ward, G. W.: *Development*

of the Chesapeake and Ohio Canal (*Johns Hopkins University Studies in Historical and Political Science*, XVII, Baltimore, 1899).

JACOB H. HOLLANDER,
Professor of Political Economy, Johns Hopkins University.

THE STATE FINANCES OF MISSISSIPPI.

WHEN Mississippi ceased to be a territory there was in the treasury $8,269.92, after the payment of such extraordinary expenses as those arising out of the constitutional convention of 1817 (which were $9,700), the publication of Turner's digest of the laws and the payment of $8,000 to the Natchez hospital for the treatment of yellow fever, which had prevailed in the summer and autumn of 1817. The finances of the Mississippi Territory had been generally directed by careful and prudent men, and when the state was admitted to the Union the plan of limiting public expenses to income had become the general policy. At the end of the first year of statehood there was a safe balance of $12,000 on hand.

The rule, however, of keeping expenses within the income from taxation was soon forgotten; and in 1822 there was a deficit in the treasury of $8,000, and this was increased in the following year to nearly $10,000. The receipts of 1823 were, in round numbers, $54,000; the disbursements $56,000. By 1824 the deficit had grown to nearly $16,000, and there was a debt of $15,000 to the Bank of Mississippi. The trouble was that the assessment of taxes failed to provide completely for the current expenses of the state. In January, 1826, there was a balance against the treasury of $41,000, made up of

debts due the Bank of Mississippi and claims not presented on account of there being no money to pay them. At this time Governor Brandon urged a revision of the revenue laws to make the revenues equal the expenditures.

By the act of Feb. 5, 1827, the governor was authorized to sell state bonds for $250,000 to pay the debt due the Bank of Mississippi, and to buy stock in it, but he was unable to obtain the loan in the eastern states.

By 1831 better conditions in state finances apparently prevailed. At that time the income was $62,000 a year; expenditures $52,000. In 1833 the state was in a still better condition, according to the books. The receipts from November, 1831, to January, 1833, were $106,000; the expenditures were $91,000.

In 1830 the state had chartered the Planters' Bank of the State of Mississippi, with the state as the principal stockholder; and this was the beginning of a system which ended in disaster and repudiation. At the January, 1833, session of the legislature a sale of bonds was authorized to the amount of $1,500,000, and the bonds were sold in New York in August at a premium of 13 per cent. This sale seemingly indicated general prosperity, but it was unreal, and was based on a dangerous expansion of credit. By 1837 the state was in the throes of boundless speculation, prices were inflated and there was a general demand for more money. The state responded by establishing more banks with capital derived from the sale of bonds.

For a period of twenty years after 1840 the payment or repudiation of the public debt was an important political issue. The management of the state banks had been corrupt and politicians inflamed the minds of the people against banks and

bondholders for selfish purposes. As the result of such agitation the state repudiated $7,000,000 of just debts. In the decade, 1830-40, the share of Mississippi in the public debt made by the various States of the Union was about $12,000,000, practically none of which has ever been paid.

After 1840 the circulating medium of the state was mainly the notes of banks in adjoining states; these were subject to constant depreciation and many became worthless.

During the Confederate states period the state finances were on a credit basis, and enormous liabilities were incurred. In 1861 the legislature authorized the issue of $1,000,000 treasury notes and $5,000,000 in cotton notes; the tax levy was largely increased from year to year, and state bonds were issued to pay taxes to the Confederate government. According to Attorney-General Harris' testimony before a congressional committee, the disbursements of credit money for the period 1861-64 were $16,301,-581. The enormous war debt was never paid on the ground that it was unlawfully made.

The real legal indebtedness of the state at the close of the war period was therefore about $1,000,000.

The main sources of revenue for the period 1817-1865 were taxes on real and personal property, business and persons, and sales of public lands. When expenditures exceeded the revenues, bonds were issued and sold to cover the deficit.

BIBLIOGRAPHY.—Rowland, Dunbar: "State Finances" (in *Encyclopedia of Mississippi History*, Atlanta, 1907); Monographs on administrations of Mississippi Governors in the same publication; Auditors' *Reports*, 1817-1865; Treasurers' *Reports*, 1817-1865; Executive Messages, 1817-1865.

DUNBAR ROWLAND,

Director Mississippi Department of Archives and History.

THE FINANCES OF MISSOURI.

The French and Spanish administrations exercised as little influence upon Missouri finances as upon the form of its government. American legislation introduced *ad valorem* rates upon real estate and specific taxes upon all important classes of personal property.* License taxes were imposed on merchants, ferries, taverns, billiard tables, lawyers and physicians. Provision existed for fees which constituted the chief source of revenue for local officials. In 1814, a complete separation of territorial and county revenue was made, taxes on real estate, slaves, merchants and a few other subjects being reserved exclusively for the central government. The sheriff, appointed by the governor, was the chief administrator of the tax laws. Throughout the territorial period governmental activities were limited and expenditures small.

The constitution of 1820, by requiring that all property subject to taxation shall be taxed in proportion to its value, did away with specific rates. Property was made taxable for state and county purposes; the county rate being limited at first to 50 per cent. of the state rate, but extended in 1831 to 100 per cent. and in 1845 to 200 per cent.

In other essential features the property tax was not modified, except that new subjects of taxation were added from time to time until practically all kinds, household furniture, corporate stock, money, notes, bonds, etc., were enumerated. A tax on bachelors, introduced in the territorial period, was changed in 1822 to a poll tax on adult free white males.† License taxes were continued and ex-

*In the latter part of the territorial period land became subject to a specific rate.
†Income taxes existed from 1847–1851 and from 1865–1866.

panded.* The tax on merchants applied only to dealers in goods which were not the growth or manufacture of Missouri. An *ad valorem* rate on the value of such goods was soon added to the license tax. This double taxation was held unconstitutional in 1851 and the license tax was eliminated. In 1858 the discriminating tax on merchandise was held unconstitutional as a regulation of interstate commerce. In the following year this tax was reenacted so as to apply to all merchandise, in which form it has continued to the present. Originally corporations were subjected to the *ad valorem* rate upon their capital stock. Later the tax was assessed upon the shares, the corporation paying it. This method of taxing continued until 1865, except that manufacturing corporations were later exempted and taxed upon their property as were merchants.

The tax administration continued in the hands of local officials whose offices became elective. Considering the low valuation the state tax rate was very moderate. In 1820 it was twenty-five cents on the $100 valuation. By 1833 it had been reduced to twelve and a half cents. In 1841 it became sixteen and two-third cents and in 1855 twenty cents. The Civil War led to marked increases, the rate becoming thirty-two cents in 1861 and forty cents in 1865 in addition to a military tax of twenty cents.

While governmental activities had increased they were still relatively limited. Improvement of highways remained a local matter, taxation being commuted by service.† Public Education was likewise left largely with local districts. The income from the state school fund was apportioned annually among the districts and in 1853 the policy was in-

*The tax on lawyers and doctors disappeared, but was reintroduced in 1847 and continued until 1851.

†State funds, derived from sale of lands granted by national government, were apportioned among counties for purposes of internal improvement.

augurated of adding to such amount one fourth of the general state revenue. The State University was established in 1839, but no appropriation of state revenue for its support was made during this period. Institutions for the insane, deaf and dumb, and blind were established and supported in part out of the state revenue. During the first decade the ordinary state expenditures did not average more than $30,000 annually. By 1850 this had increased to only a little more than $100,000. Following this there was a rapid expansion, expenditures exceeding $500,000 in 1860. The war, while increasing extraordinary expenses, reduced those for ordinary purposes.

Until the policy of granting state credit in aid of railroads was inaugurated in 1851, the state debt was small, never exceeding $1,000,000. The railroad debt amounted in a few years to $23,701,000. The companies commenced to default in 1859 and the war increased their difficulties. The state was compelled to take possession of most of the roads, but in 1866-68 disposed of them for an amount which represented only a small portion of the debt incurred. During the war the state issued more than $6,000,000 in bonds for military purposes.

Even before the state commenced its policy of granting aid to railroads it had freely authorized counties and other local governments to do this, in most cases, without the necessity of securing popular consent. As a result large local debts were incurred, in some cases, for railroads which were never constructed. This railroad experience was responsible for the restrictive financial provisions of the constitutions of 1865 and 1875.

BIBLIOGRAPHY.—Hicks, Frederick C.: "Territorial Revenue System of Missouri" in *Publications* of Missouri Society, No. 12, St. Louis, 1896); Loeb, Isidor: "The Beginning of Missouri Legislation" (in *Missouri Historical Review*, Vol. I, pp. 54-71, Columbia, 1906); *Biennial Reports of the State Auditor to the General Assem-*

bly of Missouri (Jefferson City); *Biennial Reports of the State Treasurer to the General Assembly of Missouri* (Jefferson City); *Journals of Proceedings of Senate and of House of Representatives of Missouri* (Jefferson City); *Laws of a public and general nature of the District of Louisiana, of the Territory of Missouri, and of the State of Missouri to 1824* (Jefferson City, 1842); *Laws of a public and general nature of the State of Missouri, 1824-36* (Jefferson City, 1842); *Laws of Missouri enacted at the regular and special sessions of the General Assembly of the State* (Jefferson City); *Revised Statutes of Missouri, 1825, 1835, 1845, 1855, 1865.*

ISIDOR LOEB,
Professor of Political Science and Public Law, University of Missouri.

THE STATE FINANCES OF NORTH CAROLINA.

THE colonial government of North Carolina derived its revenue chiefly from quit-rents and from the purchase money paid for lands. Taxes, however, were levied from time to time. These were usually customs duties and poll taxes, although on two occasions before the Revolution a land tax was laid. The Assembly ordinarily preferred to meet fiscal emergencies by the issue of bills of credit, and the result throughout the colonial period was a disordered currency.

With the surrender of the right to lay import duties at the adoption of the Federal constitution freer resort was necessarily had to the taxation of land and polls. Land devoted to agriculture was taxed according to area, irrespective of quality, but town lots were taxed according to value. All freemen were required to pay a poll tax and the owners of slaves were required to pay on each slave the same tax as was imposed on freemen, except that slaves above the age of fifty were exempted.* Such

*While land and slaves were practically the only subjects of taxation in this period, license taxes were not unknown. Each revenue act changed these taxes, but in general they were imposed on inns, peddlers, playing cards, and stud-horses.

a simple system of taxation was adapted only to a community where the public charges were so light that inequalities in the burdens borne by different persons were inappreciable. The plan of assessing all lands at a uniform rate per acre was the first part of the system to fall. Landowners were required in 1819 to list their lands at a sworn valuation, which was to be at least as high as that put thereon by the congressional assessment of 1815.

For thirty years after 1819 there was hardly a change in the tax laws of North Carolina. With some increase in the number of occupations on which a license tax was imposed, and with unimportant changes in the persons subject to the poll tax, the system of 1819 remained in vogue until 1847. During this period the state confined itself almost exclusively to the protection of the civil rights of its citizens and to the administration of criminal justice.* The rate of taxation was low, during the greater part of the time being six cents on the hundred dollars for property, and twenty cents on each taxable poll.

The growth of towns, with their trade and small manufactures, and the increase of personal property very early suggested a redistribution of the burden of taxation and the treasurer of North Carolina in his report for 1834 strongly urged the taxation of personal property. The necessity for any change was, however, temporarily averted by the dissolution of several banks in which the state had large interests. The money paid over by the general gov-

---

*The expenses for 1827–1828 amounted to $80,890.41. The chief items were:

General Assembly	$36,658.23
Judiciary	20,799.37
	$57,457.60

The receipts from taxation in the same year were:

Land Tax	$24,867.49	Artificial Curiosity Tax	$507.60
Town Property Tax	1,402.86	Peddler Tax	935.30
Poll Tax	26,932.21	Billiard Tables	470.00
Stud-Horse Tax	1,484.82	Fines	1,200.00
Gate Tax	202.40		
Store Tax	6,271.68	Total	$61,883.16

ernment in 1838 was also devoted in part to supplying deficiencies in state revenue.

The fiscal needs of the state were much increased during the forties by heavy expenditures for internal improvements, and as a result from 1847 to 1860 the revenue system was widened to include several additional taxes:

(1) In 1847 an inheritance tax of 1 per cent. was introduced. The widow and lineal descendants of decedents were exempted; also inheritances of real estate not exceeding $300 in value and inheritances of personal property not exceeding $200 in value were not taxed.

(2) In 1848 the state began the taxation of certain forms of personalty, viz., plate, jewelry, and watches. Somewhat later carriages were added to the list. These articles were not taxed at the same rate as real property, but usually at one per cent. of their value.

(3) In 1849 an income tax was levied on receipts from interest and profits. The rate was at first 3 per cent., and was increased in 1857 to 4 per cent. In 1859 a tax of 1 per cent. was levied on all incomes in excess of $500 derived from "salaries, fees, wages, perquisites and emoluments."

(4) The number of license taxes was greatly increased after 1847, and by 1860 included taxes on about twenty occupations.

Despite the foregoing additions to the tax system, it was necessary from time to time to increase the rate on real estate and also the amount of the poll tax; in 1860 the former was twenty cents and the latter, eighty cents.

The state was comparatively free from debt until the year 1849. From 1849 to 1860 various issues of bonds were made, aggregating in all approximately $14,000,000. The bonds were issued chiefly in aid of the following internal improvements: North Caro-

lina Railroad, $3,000,000; Atlantic and North Carolina Railroad, $1,466,500; Western North Carolina Railroad, $4,000,000; Wilmington, Charlotte and Rutherford Railroad, $2,000,000. Of the total amount of $14,000,000, about $12,000,000 was outstanding in 1860.

BIBLIOGRAPHY.—Barnett, G. E.: *Taxation in North Carolina* (in *Studies in State Taxation*, ed. by J. H. Hollander, *Johns Hopkins Univ. Studies in Historical and Political Science*, XVIII, i-iv); Bullock, J.: *Essays on the Monetary History of the United States* (New York, 1901); Huebner, S.: "*The Inheritance Tax in the American Commonwealths*" (*Quar. Jour. Econ.*, Vol. XVIII, pp. 529-548); Kinsman, D. O.: *Income Tax in the Commonwealths of the United States* (*Publs. Amer. Econ. Assoc.*, 1903); Millis, H. A.: "The Inheritance Tax in the American Commonwealths" (*Quar. Jour. Econ.*, Vol. XIX, pp. 288-308); Raper, C. L.: *North Carolina, A Study in English Colonial Government* (New York, 1904); Tenth Census, 1880, Vol. VI (Washington, 1884); Urdahl, T. E.: *Fee System in the United States* (Madison, 1898); Weaver, C. C.: *Internal Improvements in North Carolina* (*Johns Hopkins Univ. Studies in Historical and Political Science*, Vol. XXI, Nos. 3-4); West, Max: *Inheritance Tax* (*Columbia Univ. Studies in History, Economics and Public Law*, Vol. IV, No. 2); *Laws of North Carolina*, collected by James Iredell, Esq., (Edenton, 1791); *Revisal of "Laws of North Carolina,"* by Francis Xavier Martin (Newbern, 1804); *Acts of the General Assembly of North Carolina; Reports* of the Auditor of North Carolina; *Reports* of the Treasurer of North Carolina.

GEORGE E. BARNETT,
Associate Professor of Political Economy, Johns Hopkins University.

THE FINANCES OF SOUTH CAROLINA.

DURING the first twelve years of the life of the province of South Carolina, 1669 to 1682, no tax was imposed upon the settlers. In 1682 the representatives of the people took steps to levy a "tax of £400 for defraying the public charges of the province." The records do not state, however, the mode of laying this tax. In 1691, a duty was placed upon skins and furs which were at that time the principal ex-

ports from the province. The amount of the duty is not stated in the records, but it was evidently sufficient to meet the expenses of the government for about ten years. In 1702 an act was passed "for raising £2,000" to equip the military expedition against St. Augustine. In each of the years 1703 and 1704, acts were again adopted to raise the same amount of money to meet the obligations contracted in that unsuccessful expedition. This money was secured by issuing bills of credit to the amount of £6,000. These bills bore 12 per cent. interest and were legal tender for the payment of debts. They became so popular, that afterwards, at various times, large quantities of them were issued to meet the expenses of the wars waged against the Indians and the Spaniards.

Early in the Eighteenth century a tariff of 10 per cent. was laid upon skins, furs, liquors, sugar, molasses, flour, and upon some other articles of the export and import trade. Slaves imported from the other colonies were taxed more heavily than those brought from Africa. Later in the century, the duty on dry goods imported was 3 per cent., and on deerskins exported, three pence per skin. The duties amounted to about £4,500 per annum, or about £1,000 in excess of government expenses. These expenses were as follows: £1,000 to meet salaries of ten ministers of the Church of England; £1,000 for repairing and completing fortifications; £600 for officers and soldiers in garrison; £300 for military stores; £250 to pay Governor's salary; £400 to meet incidental expenses.

The surplus was used as a sinking fund to cancel bills of credit. The extraordinary expenses of the provincial government were heavy, due to wars with the Indians, and were met by issuing bills of credit. In 1714 all taxable property in the province, includ-

ing lands, negroes, stock, merchandise, etc., was valued at £739,763.

During the period 1702 to 1770, South Carolina issued bills of credit to the total amount of £605,000. In spite of their depreciation, public credit was unusually good when the Revolution began.

In June, 1775, South Carolina again raised money by bills of credit. These retained their full value until April, 1777, when they began to depreciate. The policy adopted as a remedy for the decline in the value of the bills was the pouring out of another flood of bills, but in May, 1780, when Charles Town was captured, the paper money ceased to circulate. Prior to the fall of Charles Town, three separate levies were laid on lands and negroes to secure funds for the war. In 1777 one-third of a dollar was imposed as a tax on each negro and on every tract of one hundred acres of land. In 1778 this tax was doubled, and in 1779 it was made one dollar in specie (twenty dollars in paper money).

At the close of the Revolution the sum of about four millions of dollars of South Carolina's debt was assumed by the United States. It was found, however, that beyond this amount a balance of $1,447,173 was due to South Carolina for expenditures made in behalf of all of the states. Certificates of funded stock for that sum were therefore given to the state, and these certificates were paid by the United States. A credit of this kind placed the finances of South Carolina on a firm basis. Bills of credit for a moderate amount were issued by the legislature. These bills were lent to the people, and the interest paid on them formed a part of the state's revenue. In 1792 the South Carolina State Bank was organized with a capital of $1,000,000. In 1812 the State Bank was established in Charleston, the state government owning the entire stock of the institution. It was admir-

ably managed, and for many years brought in a large revenue in the form of dividends.

After the adoption of the Federal constitution the state drew its chief revenues from taxes on lands, negroes, bonds and stocks, factories, professions, business occupations, dividends from bank stock, interest on bills of credit, interest on installments paid on the debt due from the United States, fines, and forfeitures. During the early years of the nineteenth century the average amount of taxes collected annually was about $135,000; from other sources the state received about $175,000.

During the period 1816 to 1825, the state government expended the sum of $1,712,662 in building roads and canals and in dredging rivers. For some time after the year 1825 as much as $100,000 was annually spent for such improvements.

The total value of the taxable property of the state in 1860 is given as $489,000,000. The amount of taxes raised the same year for the support of the state government was $591,799. The expenses of government, however, in that year were $967,968, exclusive of interest on the public debt. According to an assessment made in the year 1858, the state contained 17,558,401 acres of land, valued at $10,257,727. The taxes on this land in 1861 amounted to $82,840.65. The comptroller-general in his report for 1861 states that the taxes on slaves amounted to nearly four and a half times as much as the taxes on lands. The land tax, said this official, was not heavy enough and was not equitably distributed.

The public debt of the state amounted, in 1856, to the sum of $2,693,276.60. This amount (except the sum of about $123,000) was in the form of Fire Loan Bonds issued in 1838, New State Capitol Bonds, and Blue Ridge Railroad Bonds ($400,000). The state owned railroad stocks to the amount of $1,742,300

(including the sum of $400,000 in the Blue Ridge Railroad). This holding was increased in 1859 to the sum of $2,652,300. Besides this, the state guaranteed the payment of bonds to the amount of about four and a quarter million dollars, and a large part of this obligation was finally met by the state. In 1861 the public debt amounted to $4,846,282.47. The increase since 1856 was represented by New State Capitol Bonds to the amount of $1,215,000, and by bonds for military defence ($724,600) issued in 1860 and 1861. During the struggle of 1861-65 a large part of the taxable property of South Carolina was destroyed, and the lands depreciated in value. Every available source of income was drawn upon for the support of the Southern Confederacy. Not much was left in the state in 1865, except the territory itself, and the men and women who survived the war, but these were all filled with the determination to build anew the commonwealth of South Carolina.

BIBLIOGRAPHY.—Carroll, B. R.: *Historical Collections of South Carolina* (2 vols., New York, 1836); Gibbes, Robert: *Documentary History of South Carolina* (3 vols., Charleston, Vol. I, 1853, Vol. II, 1855, Vol. III, 1857); McCrady, Edward: *History of South Carolina* (4 vols., New York, I, 1897, II, 1899, III, 1901, IV, 1902); Mills, Robert: *Statistics of South Carolina* (Charleston, 1826); Ramsay, David: *History of South Carolina, 1670-1808* (Charleston, 1809); Ramsay, David: *History of the Revolution in South Carolina* (2 vols., Charleston, 1809); Rivers, W. J.: *A Chapter on the Colonial History of the Carolinas* in Justin Winsor's *Narrative and Critical History of America* (Vol. V, ch. 5); *Historical Sketch of South Carolina* (Charleston, 1856); *Collections of Historical Society of South Carolina* (5 vols., Charleston, I, 1857, II, 1858, III, 1859, IV, 1887, V, 1897).

HENRY ALEXANDER WHITE,

Professor in Columbia Theological Seminary, Columbia, South Carolina.

THE STATE FINANCES OF TEXAS.*

The chief financial problems of Texas down to the War of Secession were the payment of a debt of $12,436,991 inherited from the Republic, and the provision for internal improvements. The debt was scaled and payment was attempted in land in 1850, but this treatment was unacceptable to the creditors. The way out of the vexatious situation was found in the national legislation of 1850 and 1855, whereby the United States paid to the state $5,000,000 in United States bonds and pro-rated in cash $7,693,887 among those creditors who held evidences of debt, amounting to $10,021,582, for whose payment the import duties of the Republic had been pledged. The state made provision for the unsecured debt, and to Jan. 1, 1861 paid $1,267,577, and including this paid, to 1885, $1,503,993.

The temptation to the state to engage in internal improvements was strong, but the experience of older states was heeded, and assistance to such improvements was rendered principally through liberal land grants and the loan of the school fund to railroads. Of the principal of the school fund $1,816,000 was loaned, and this investment has proved on the whole a satisfactory one.

Until the receipt of the United States bonds the functions of the state government were narrowly restricted and economically performed, but after that and until 1860 there was a period of surplus financiering which resulted in a more liberal performance of the old duties and in the undertaking of new ones. In 1854 the school fund was endowed with $2,000,000 of the bonds, and in 1856 provision for

* Some of the material for this article has been collected by the author with the aid of the Carnegie Institution of Washington.

institutions for the insane, the blind, and the deaf and dumb was made.

The general property tax, occupation, and poll taxes were concurrently levied down to 1861. In no year, however, were the receipts from taxes adequate to meet the ordinary expenditures. The *ad valorem* rate of state taxation never exceeded one-fifth of one per cent., and for the greater part of the period was less. The enormous extent of non-resident land holding, and the imperfections in the laws resulted in the undervaluation of land and in its escape from assessment. From 1852 to 1858 nine-tenths of the proceeds of state taxes were relinquished to the counties to be used for building court houses, jails, etc. Meanwhile state expenditures were met by the use of the United States bonds. This amounted virtually to a distribution of the bonds among the counties for permanent purposes, and as it is probable that if they had not been so used they would have been lost during the war, this was not an unwise disposition of them.

During the years 1861-65 the state in the loyal performance of its duties as a member of the Confederacy raised armies, forwarded supplies, and extended support to the indigent families of soldiers. Total net expenditures amounted to $4,863,790, of which probably not less than $3,591,075 were of a military character. Receipts were mainly in depreciated Confederate notes and state treasury warrants and amounted net to $8,149,913. Approximately 40 per cent. of receipts was from taxes, 8 per cent. from the sale of bonds, 38 per cent. from the sale of products manufactured at the penitentiary, and 14 per cent. from miscellaneous sources. The *ad valorem* rate of the state tax was one-half of one per cent. in 1863 and 1864, but the arrearages of this tax were large. The innovations in taxation

were a tax on occupations on the basis of gross receipts, and a tax on salaries and professional incomes. The laws levying these were laxly drawn, were evaded, and except during the last year of the war produced little. Taxes collected in the state on account of the Confederate government amounted to $26,904 in specie and $37,459,950 in Confederate notes. Confederate and state taxation together, therefore, constituted a heavy burden.

Texas entered the war out of debt, except for a small floating debt. On October 30, 1865, however, the debt was estimated at $7,989,897. Of this amount $981,140 was funded, $2,208,047 was in the form of outstanding treasury warrants and cotton certificates, $1,455,914 was due the school and other special funds for loans and for evidences of state debt held by them, $3,150,000 was estimated as due soldiers and for supplies, and the balance was miscellaneous. The cash balance on hand at the close of the war was $3,368,510; but of this amount only $15,397 was specie. The remainder was valueless Confederate notes and state paper. In addition to the above balance there was in the hands of the Military Board $129,975 in United States bonds and interest coupons.

Bibliography.—*Congressional Globe* (Washington, 1849-1856); Gouge, W. M.: *The Fiscal History of Texas* (Philadelphia, 1852); House Miscellaneous Document, 17, Thirty-third Congress, second session (Washington, 1885); Journals of the house and of the senate of the legislature of Texas, 1846-1865; Laws of Texas, 1846-1865; Reports of the comptroller and of the treasurer, 1846-1865; The Texas *State Gazette* (Austin, 1849-1861); The *Tri-Weekly Telegraph* (Houston, 1861-1865).

Edmund T. Miller,
Instructor in Economics, University of Texas.

THE STATE FINANCES OF VIRGINIA.

The people of Virginia were left by the War of the American Revolution in a condition of financial exhaustion, from which recovery was slow and gradual. Virginia came out of this war with an ascertained public debt of £4,231,283: 13s: 3½d in Virginia currency, or $14,104,276.66 in decimal currency, exclusive of the liability for the public money paid under the Sequestration Acts, and for the redemption of some $15,000,000 of Continental paper. This was an indebtedness enormous in comparison with the resources of the commonwealth, then greatly depleted by the demands of seven years of exhaustive war.

Of this indebtedness £2,100,000, say $6,999,930, or nearly one-half of her public debt was Virginia's share of that contracted by the Continental Congress in the prosecution of the war for independence. Agriculture, then, as afterwards, was the Virginians' principal avocation. Their property consisted chiefly of land and negro slaves. Such manufactures as they had were distinctly domestic, and mainly conducted upon the plantations or in the homes of the people.

Nevertheless, though largely confined to the Eastern portions of the commonwealth where accessibility to navigable bays and rivers brought the markets of the world in reach, the advance in wealth was steady, and so considerable that during the War of 1812-15 Virginia was able to come to the substantial relief of the Federal government, then in financial stress, by the loan of large sums of money.

The following figures are suggestive of the vicissitudes of fortune, and the fluctuations in the burdens of taxation experienced by Virginia during the first

nine decades of her history as a commonwealth. The revenue from taxation of all kinds for the fiscal year 1784 was in round numbers £401,669 (Virginia currency), or $1,388,893.33 in decimal currency, the equivalent of not less than $5,500,000 on the basis of property values in 1910. Of this sum, however, large amounts were payable on account of arrears of "certificate taxes," and considerable amounts in tobacco and other commodities or "commutables."

For the fiscal year ending Sept. 30, 1822, the receipts from taxation were $470,764.88, the equivalent on the basis of present property values of say at least $1,000,000. For the same year the general ordinary expenses of the state government were $486,-117.07, and the sum appropriated to primary schools was $45,000.

During the War between the States, particularly after its first year, state taxes were levied and collected in the then depreciated currency of the Confederate states. In the fiscal year 1863 the receipts from the several sources of revenue, including excise taxes, were $7,205,077.38 in Confederate currency. For the year ending Sept. 30, 1864, the revenue derivable from similar sources was estimated by the auditor of public accounts at $12,169,166.10 in Confederate currency. The disbursements during the same period were estimated at $21,509,090.31. The deficiency had to be made up out of the large balance in the treasury at the beginning of the year, or from increased levies, temporary loans, or other expedients.

From an early day influential citizens of the commonwealth, under the leadership of George Washington, advocated the construction, under state auspices, of works which would afford lines of communication between the different portions of the state, and through Virginia to the regions beyond—

particularly "between the Eastern and Western waters." In 1816, impelled by a purpose to thus develop the resources of the commonwealth, a Board of Public Works was created and given large powers; and an internal improvement policy was thereafter definitely determined upon. This was signalized in 1823 by the election of the eminent engineer, Col. Claudius Crozet, who had been an engineer under the great Napoleon, and later professor of engineering in the United States Military Academy at West Point, to the office of state engineer of which he was the third and most distinguished incumbent.

The state thereafter expended great sums in canals, roads, turnpikes, bridges, railroads, and in improving the navigation of Eastern and Western rivers. A very large public indebtedness was created to secure these sums. Over $38,000,000 were expended between 1820 and May, 1861, upon such public objects. Of this expenditure, about $33,000,000 were represented by the funded debt of the commonwealth at the breaking out of the War between the States, an immense indebtedness for a people circumstanced as the Virginians of that day were. This debt, afterwards the occasion of such distress and trouble, was contracted for the purpose of developing the wealth and resources of the state by roads, canals, and railroads, the most important and expensive of which were designed to penetrate or cross Virginia and what is now West Virginia. These were left in an unfinished and unprofitable condition, so that, compelled by reason of the war and of the dismemberment of the state, to abandon any effort for their completion, they proved an almost total loss.

Notwithstanding the large amount of her indebtedness, the financial credit of Virginia was maintained through all the decades prior to 1861. For

some time her bonds commanded a handsome premium. None issued by any American state stood higher in the markets of the world, and during a large portion of that period her credit was actually better than that of the national government.

The sad change which came over her affairs in this regard was a result of the catastrophe—the losses and revolution, wrought by disastrous war.

BIBLIOGRAPHY.—The facts here stated are derived from contemporary documents and histories of Virginia; Acts of the General Assembly of Virginia, *Journals* of the General Assembly, public documents, such as *Reports* of the Auditors of Public Accounts, and of the Second Auditors of Virginia, *Reports* of the Board of Public Works, and *Messages* of the Governors of Virginia, and from miscellaneous sources as to the financial history of the state.

WILLIAM A. ANDERSON,
Attorney-General of Virginia.

THE STATE FINANCES OF TENNESSEE.*

At the time of her admission to the Union in 1796, Tennessee had inherited from North Carolina a system of taxation fitted for the needs of an agricultural community. As in other Southern states, the chief feature was the taxation of lands, town lots, white polls, and slaves; to which were added taxes on litigation and on transfers of land. Unique in the legal history of American taxation was the requirement in the state *constitution* that the land tax should be a specific one, rated at so much the hundred acres, without regard to location, quality, or value. This provision, which came from the North Carolina acts, favored the speculators and large landholders, and excited increasing disapproval. However, between 1796 and 1834, no important

*Acknowledgment is made of assistance received from the Carnegie Institution of Washington in the preparation of this paper.

change took place, except that new objects were added to the list of taxable things: stud horses, billiard tables, banking stock, etc. There developed, also, a system of taxation of merchants, and gradually licenses and privileges tended to become separate from property. Local taxation followed the same general lines as state taxation.

In 1834 a new constitution substituted the *ad valorem* basis for the taxation of lands and other property. The taxation of merchants and privileges became more and more important. There was, however, no radical departure from the old lines; the poll tax was continued, and more and more property was added to the taxable list.

The increasing wealth of the state caused the receipts, in general, to be ample for the ordinary expenditures. The following figures are only approximately accurate:

Year.	Receipts.	Expenditures.
1796	$111,281	$18,135
1831 *	162,849	147,471
1833 *	151,063	180,306
1859 †	1,580,187	1,560,489

Occasionally revenue was in excess of current needs, and the surplus was refunded to the counties. The very heavy outlay needed for internal improvements was met by borrowing on the credit of the state.

One "Bank of the State of Tennessee," founded in 1820, served for about ten years as the financial agent of the state, and the depository for public funds. Another, chartered in 1837-38, though weakened by the drafts which the legislature made upon its capital, continued until ruined by the war. Besides these, there were other chartered banks, and

*Treasurers' report for the two years preceding.
†Estimate of the gross receipts and expenditures for next two years, by Comptroller.

in 1852 a free banking law was passed, under which several banks were incorporated; but the credit of these last institutions was not high.

The public lands of the state, which became available as the Indian title was extinguished, and as the consent of the Federal government was obtained, proved to be rather a source of quarreling than of large income. The early sales were upon a credit basis and the relief extended to the state's debtors proved costly to the educational interests involved and annoying to the legislature. In 1823 the method of sale was changed to one of graduated prices, and the results were more satisfactory. The public land question was complicated from the beginning by the conflict between the rights of North Carolina, Tennessee, and the United States. However, considerable sums were received from time to time from this source, and were devoted to educational purposes and internal improvement.

The state debt, begun in 1832 by investment in the stock of a chartered bank, for which purpose bonds were issued, was increased by the issue of bonds for similar investments in banking, also for the building of the state capitol, the purchase of the Hermitage, and other minor objects. In addition, the state loaned its credit by the issuing of bonds to several railroads; and by guaranteeing the bonds of others. The result was a total liability amounting, in 1862, to nearly $20,000,000.

As in many other states, the questions of the public lands and banking were much entangled with those of education, the improvement of rivers and highways, and the building of railroads.

BIBLIOGRAPHY.—Caldwell, J. W.: *Studies in the Constitutional History of Tennessee* (2d ed., Cincinnati, 1907); Garrett, W. R., and Goodpasture, A. V.: *History of Tennessee* (Nashville, 1900); Goodpasture, A. V.: "Education and the Public Lands in Tennessee" (in *American Historical Magazine*, Vol. IV, No. 3, pp. 210-228); Mer-

riam, L. S.: *Higher Education in Tennessee* (Washington, 1893); Phelan, J.: *History of Tennessee* (Boston, 1889); Sanford, E. T.: *Blount College and the University of Tennessee* (Knoxville, 1894); Sioussat, St. George L.: *Some Phases of Tennessee Politics in the Jackson Period* (reprinted from *American Historical Review*, Vol. XIV, No. 1, pp. 51-69, 1908); The Constitutions and Statutes of the State; The Public Documents (until 1835 financial statistics are found in the *Reports* of the Treasurers submitted to the legislative Committee on Finance; after 1835, in the *Reports* of the Comptroller and the Treasurer. The *Messages* of the Governors also contain much information); *Report of Committee on the Relations between the University and the State*, made to the Board of Trustees of the University of Tennessee, Jan. 3, 1907 (*Univ. of Tenn. Record*, Vol. X, No. 2).

St. George L. Sioussat,
Professor of History and Economics,
University of the South,
Sewanee, Tenn.

---

3. Economic Progress and Problems.

THE INFLUENCE OF THE PRESS IN SOUTHERN ECONOMIC DEVELOPMENT.

The ground for this discussion is almost wholly new, the Congressional Library at Washington not having even a list of the agricultural publications of this country prior to 1865 and none since that period except that contained in Rowell's Newspaper Directory. In the United States Department of Agriculture no adequate account has been kept of the agricultural journalism of the country. Very little literature exists to show what the press of the country has done for its industrial development.* Yet, without the work of the daily and weekly newspapers and the industrial and class journals, each working within its own sphere, there would have

*I am greatly indebted to Dr. Stephen Conrad Stuntz, bibliographer of the Bureau of Soils of the United States Department of Agriculture, for the most accurate information I have been able to gather about the economic influence of the press upon Southern development.

been slow progress in the varied activities of the South. It is not surprising that South Carolina, which was the first among the American commonwealths in offering instruction in government, should have been the pioneer also in the creation of new industrial conditions. First in the cultivation of rice, in the growing of indigo, in the production of long staple cotton, in the use of armor in warfare on the water, and in the development of the torpedo both as a weapon of offence and defence, South Carolina has also been foremost in the journalism which has contributed to the building of the nation. In 1816 Jacob N. Cardozo assumed editorial control of *The Southern Patriot,* published at Charleston. He was a close student of the principles of trade, commerce, and finance and devoted much attention to the commercial relations of the United States with the British West Indies, a question which caused much solicitude to the Monroe Administration. Cardozo was opposed to the protective tariff and was a pronounced advocate of free trade, although steadily resisting the Nullification movement in South Carolina, and, although out of touch with the people of his state he did not forfeit their confidence or lose their support. He continued to conduct *The Southern Patriot* until 1845 when he sold it and the same year established *The Evening News* of which he became commercial editor. In 1870, at the age of eighty-four years, he was the successful competitor for the prize essay of the Charleston Board of Trade, and it was owing to his sense of the economic importance of carefully prepared statistical information that he introduced in his newspaper work as early as 1845 the " Cotton Statements " which are now so necessary a feature of commercial papers. From the office of the *Charleston Courier,* however, the first

letter sheet Prices Current ever published in the South was issued in September, 1833. In May, 1845, Cardozo traced in the *Charleston Courier* the history of the cotton trade back to 1800, dividing the subject into three periods of fifteen years each, and in the *South Carolina Agriculturist* for August, 1856, Cardozo wrote on the "Growth and Consumption of Cotton" from 1845 to 1855. It was in the *Charleston Courier* in 1847 that William S. King, first and most prominent of Southern editors, supported the establishment of the "Electro-Magnetic Telegraph" which has revolutionized not only the newspaper business but controlled all the economies of life. J. D. B. DeBow, of Charleston, editor of *DeBow's Commercial Review*, of New Orleans, was the ablest statistician in the country in the forties and in his *Review* is to be found a great storehouse of information upon Southern economic conditions for many years prior to 1870.* DeBow was also Director of the United States Census of 1850. It was DeBow who planned for the establishment of a professorship of commerce in the University of Louisiana, in which public economy, commerce, and statistics, with the application of statistics to commerce, agriculture and manufactures, should be taught.

In 1845 William Gregg published a series of articles in the *Charleston Courier* upon the relation of cotton manufacturing to commercial expansion, in which he showed how with its raw materials at hand it would be practicable for the South to control the cotton manufacturing business of the country. This was the forerunner of the campaign cry of *The News and Courier* thirty years later "Bring the Mills to the Cotton," which has resulted in the

* For additional information see article, "Economic Thought and Writing in the South."

conversion of South Carolina in less than the life of a generation into the second cotton manufacturing state of the nation, and in twenty years advanced the consumption of cotton in the Southern mills from 410,452 bales in 1887 to 2,374,225 bales in 1906, a consumption of only 120,245 bales less than the consumption in the cotton mills of the Northern states. Not only did the South lead the country in agricultural development, but in the building of railroads and in the promotion of all the agencies of commerce it has, by its statesmanship and largely through the work of its press, achieved not only substantial fortune for itself, but has opened one of the richest regions in the world for the exploitation of foreign and domestic investors. Yet, in spite of the activity of the press in every movement having as its object the development of the natural resources of this part of the country, it is true that there is not in existence any trustworthy history of the agricultural press of the South or of the country. After working on the subject during seven years, Dr. Stuntz found in the Library of Congress and in the Library of the Department of Agriculture, which contain two of the largest collections of agricultural papers, not more than a dozen complete files of American agricultural papers, and the other libraries of the country have even less. The earliest of these papers, *The Agricultural Museum,* of Georgetown, D. C., was established in 1810-12. It did not live long and had a very limited circulation. In 1819 *The American Farmer* was established at Baltimore and has always been considered as the pioneer of the American agricultural press. It was largely devoted to general agriculture from the Southern point of view, and numbered among its contributors practically all of the men who were important in the agri-

cultural and industrial development of the Southeastern states.

Another paper in the South of great importance was *The Southern Agriculturist,* of Charleston, S. C., 1828-46, which was more of the type of a review than what is now regarded typical of agricultural journals. *The Farmers' Register,* of Petersburg, Va., edited by Edmund Ruffin, 1833-42, was of the greatest value in its influence on the study of soils, fertilizers, and the relations of geology to soils. *The Southern Planter,* of Richmond, Va., 1841-61, and revived after the war, was a strong paper. Probably the one paper with the strongest influence, however, in the far South was *The Southern Cultivator* of Augusta, the only Southern agricultural paper to survive the war. This paper immediately on cessation of hostilities began to encourage the Southern planters to fit themselves for successful farming under the new conditions.

Every state had one or more papers at comparatively early times. In 1840 Tennessee planned the combination of its five agricultural papers into one *Tennessee Agriculturist,* which should combine the abilities of five editors and which should give the state one strong periodical. Some of the editors of this periodical were Frank X. Zollicoffer, Tolbert Fanning, John Shelby, and Charles Foster. Mississippi had a number of periodicals, several of them edited by Dr. M. W. Phillips. It is interesting to note that *The Southwestern Farmer,* in 1842-45, was published at Raymond, Miss., which shows what at that time was the public notion in regard to the term "Southwest."

Other papers of interest as showing the type of men who editorially conducted them were: *The Alabama Planter,* 1841-59, established by William Lowndes Yancey; *The Carolina Planter,* 1840,

edited by Dr. Richard W. Gibbes; and *The Countryman,* of Eatonton, Ga., 1860-64, the paper on which Joel Chandler Harris first began his work.

The silk craze and *Morus multicaulis* boom of the late thirties affected many Southern periodicals, although the death rate in the press due to this cause was not nearly so great as among the Northern agricultural periodicals. Two periodicals devoted to this subject were started—*The Cocoon,* of Lexington, Ky., in 1839, and *The Journal of the American Silk Society,* 1839-42.

No periodical devoted entirely to gardening was issued in the South, nor was there any live stock journal, although a large part of many of the periodicals were given up to these subjects.

James C. Hemphill,
Editor of The Times-Dispatch, Richmond, Va.

STATE AND LOCAL AGENCIES FOR THE PROMOTION OF AGRICULTURE AND MINING.

Prior to the period of development subsequent to 1870 the forces, state and local, tending towards a public study of the American natural resources centered around the development of agriculture, through surveys and agricultural societies; of mining, through geological surveys; of transportation, through bureaus of internal improvement; of general culture, through state-supported seats of learning and occasional scientific or literary societies. The atmosphere pervading the work was essentially social rather than professional. The geologist or surveyor in his rounds travelled from place

to place as the guest of the more prominent members of the local communities and time seemed less important than at present. Popular lectures, lyceums, and the gatherings of local or state societies served largely as the means of diffusing the knowledge at hand. Books and reports of the various organizations were few and relatively inexpensive, and little effort was put forth to render them attractive by the use of illustrations or readable by the omission of rambling discussions of local details.

Agricultural societies were the first agencies formed to promote the study of natural resources. The earliest of these in the South was the State Agricultural Society of South Carolina founded in 1784-85. It was not, however, until the revivals of interest toward the close of the fourth decade and the beginning of the sixth decade of the Nineteenth century that these societies became more general throughout the South. The establishment of the Kentucky Society in 1838 and the revival of the South Carolina Society a year later, belong to the earlier period, while the later is marked by the establishment of societies in Alabama in 1852, Virginia in 1853, Texas in 1853, and North Carolina in 1854. Some of these were successful in acquiring and disseminating knowledge regarding all sorts of subjects, but especially those relating to agriculture. Others were less efficient, the success of the societies depending apparently on the presence or absence of leading spirits who were well informed and willing to work.

The actual advances made by these societies were small, but they served to bring the people together and to arouse their interest in the scientific development of the local resources.

The agricultural interests were also largely in-

strumental in establishing agricultural and mechanical colleges which later developed into state institutions of wider scope. These employed professors who aroused interest in the study of the physical features and who often had attached to their professorships offices such as that of State agricultural chemist, geologist or engineer.

The establishment of Boards of Internal Improvements was another method adopted for official exploitation of the resources. These doubtless arose as a means of checking the expenditure of the vast sums of money appropriated by the states for highways, canals, and railroads during the early decades of the last century. The execution of the schemes proposed called for detailed knowledge of the territory traversed and necessitated the surveying of numerous stretches of little known country. The reports of the Boards of Improvement contained much new first-hand information in the form of sketches, surveyors' notes, and maps which had a marked contemporaneous value but are now superseded by the more accurate work of later years. Such Boards were established in North Carolina in 1819, in Maryland in 1825 and in Kentucky in 1837. They subsequently were abolished or changed into boards of public works.

A Bureau of Agriculture was active in Tennessee from 1854-59 and a Bureau of Statistics was established in Louisiana in 1848. These also did efficient work in the collection and propagation of knowledge.

The chief systematic studies of the natural resources were conducted by the Geological Surveys which were authorized by nine of the Southern states, beginning with that of North Carolina in 1823. The periods of greatest interest in this class of work were in the thirties, when organizations

were active in Maryland, Virginia, South Carolina, Georgia, Kentucky and Tennessee; and in the fifties, when surveys were extensively carried on in Maryland, North Carolina, South Carolina, Florida, Alabama, Mississippi, Texas, Arkansas, Kentucky, and Tennessee. Work in all of the states stopped at or soon after the outbreak of the Civil War and in many cases was not renewed until the establishment of the present organizations many years later.

All of these organizations, with the exception of that in Florida, published one or more reports containing the results of detailed studies of the mineral and agricultural resources, many of them written by some of the foremost geologists of the country. Brief summaries of the work of these organizations are given below.

Maryland.—The Assembly in 1832 passed resolutions authorizing the governor to appoint a topographical engineer and a geologist and as a result of their preliminary report an Act was passed in 1834 providing for a "new and complete map and geological survey of the state." John H. Alexander and J. T. Ducatel, who had been appointed under the earlier act, were intrusted with the undertaking. Their work, which ceased in 1840, resulted in eight reports of varying size covering the greater portion of the state and illustrated by numerous maps upon which were indicated the occurrences of such mineral deposits as were then known. The survey marks the first use of contoured maps in America. The study of the coal fields of Allegany county made known all the major features of the coal deposits of the state, which have furnished a constantly increasing annual production since the tapping of the field by railroads in 1842.

An Act of Assembly in 1848 authorized the appointment of an agricultural chemist who was to analyze all specimens of soil or minerals submitted and to give a public lecture in each of the one hundred and forty-four election districts yearly. During the incumbency of Dr. James Higgins (1848-58) six reports were published containing analyses, but little of ultimate scientific value was accomplished. He was succeeded by Philip T. Tyson who issued two reports of more lasting value, including systematic descriptions of the mineral resources of the state as then known and the first geologically colored map (1862) of the state.

Virgina.—The Assembly of 1835 passed a bill authorizing the appointment of " a suitable person to make a geological reconnaissance of the state " and to report a plan for a geological survey. This led to the appointment of Professor Wm. B. Rogers, who ultimately published seven preliminary reports on his results. The survey was abolished in 1842 prior to the completion of the final report, the total cost to the state being less than $42,500. These reports, recognized as among the best state reports issued during the period, contained much new and valuable information and have remained the chief source of knowledge regarding the resources of the state until the organization of the present survey. Manuscript maps and sections showing the geology were prepared at the time but were not published by the state, appearing first in 1873, and subsequently in 1884, under private auspices.

The report for 1835 includes a general summary of the geology of the state and a more detailed discussion of the marls and other geological formations of the Tidewater counties. The report for 1836 describes the progress of the surveys in the

same region, along the Potomac and Rappahannock, the Richmond Coal Basin, the gold belt of the Piedmont, and the mineral area of southwestern Virginia. The report of 1837 returns to the discussion of the Tertiary deposits of the Tidewater area, and also describes the geology of the region west of the Blue Ridge. The report for 1838 describes with greater detail the region of the Valley and the Appalachians. The remaining reports, for 1839, 1840 and 1841, review the work in the different fields of activity describing in detail the geology of southeastern Virginia and that portion of the state now embraced in West Virginia.

The failure to carry this work to completion in a final systematic report deprived Virginia of much credit as an enlightened state and its inhabitants of much of the value of the work already accomplished.

North Carolina.—This state has the credit of having inaugurated (1823) the first survey under State auspices but " to Massachusetts credit must be given for the first geological survey made at the expense of the state " (1830).*

In 1821 Denison Olmsted " a Connecticut schoolteacher " then professor of chemistry at the University of North Carolina, proposed to the Board of Internal Improvements that they appropriate $100 annually for the expenses of a geological and mineralogical survey, the labor to be given by himself. This offer was declined. He undertook the task independently with the loan of a horse and the hospitality of the people as his assistance. In 1823, however, Olmsted received an annual appropriation of $250 to make a geological survey of the state, the results of which are embodied in two reports dealing chiefly with the distribution of gold,

* Merrill, G. P., Smithsonian Institution *Ann. Report*, Nat. Mus., 1904, 266.

coal, and building stone; and with the suitability of the limestones and marls as fertilizers. Before the work was completed he was succeeded by Professor Elisha Mitchell, who had also migrated from Connecticut. The results of the latter's work formed the basis for a textbook used in the State University and a small geological map of the state, "the only map of its kind thus far prepared." The influence of these two men left a permanent impression on their state far beyond such knowledge of its resources as they disseminated.

The official surveying of the state apparently ceased in 1828 and was not renewed until the appointment in 1851 of Ebenezer Emmons of New York as state geologist. Emmons held the office until his death in 1863, though the work of the survey ceased in 1860. Five reports were published. The first issued in 1852 relates chiefly to the eastern counties and the eastern coals; the second, issued in 1856, with the geology and mineral resources of the Midland or Piedmont counties; the third, issued in 1858, with the agriculture of the eastern counties; and the fourth and fifth, issued in 1860, with the soils and swamp lands.

These early investigators apparently regarded the marls and soils of the state more important than its mineral resources and accordingly endeavored to accomplish their wide utilization.

South Carolina.—South Carolina, as early as 1822, authorized John Wilson to construct a map of the state which was based on the district surveys. This map, issued in 1822 in Philadelphia, was probably the best official state map of its time, that of Virginia not being issued until 1826.

In 1843 the well-known agriculturist Edmund Ruffin of Virginia was appointed agricultural surveyor of the state and issued a small volume on

the progress and results of his work on the agricultural resources. This naturally dealt chiefly with the marls of the Coastal Plain.

The first systematic geological survey was inaugurated in 1844 with the appointment of Michael Tuomey, an Irish engineer and teacher, as state geologist. He immediately published a short report on the minerals of this state. This was followed by a final report giving a more elaborate discussion of the geology and mineral resources which was accompanied by the first geological map of the area. This report contains considerable information regarding the gold and iron mines of the state and a map of the iron and limestone deposits of the York and Spartanburg districts. Much attention was also devoted to the marls as fertilizers, but nothing was said of the more valuable phosphate deposits which were then unappreciated. This first geological survey ended in 1847 with the removal of Tuomey to Alabama. Eight years later Tuomey's assistant, Oscar M. Lieber, was appointed director of the survey, in which position he remained until 1860. During his incumbency four annual reports were issued (1857-60) which dealt with the agricultural and mining resources of the state. These were accompanied by colored geological maps and have, with the reports of Tuomey, been the chief sources of information regarding this state until recently.

Georgia.—The official attempts to exploit the resources of Georgia, prior to 1865, were rather unsuccessful. With the hope that the interest of the legislature might be aroused certain citizens employed Professor John R. Cotting, a Massachusetts clergyman who had removed to Georgia, to make a geological and agricultural survey of Burke and Richmond counties. The results of this survey

were published in a little volume in 1836 and doubtless influenced the legislature (1837) to appropriate $10,000 and authorize the appointment of a state geologist. The office was, however, abolished in 1840 before anything had been accomplished by Dr. Little who had been appointed to the office.

Florida.—A similar abortive attempt was made in Florida in 1853 by the appointment of an engineer and geologist. The survey was abolished two years later, the only tangible result being a seventeen-page pamphlet of no value in the development of the state.

Alabama.—The first geological and agricultural survey of this state was inaugurated in 1848 by the appointment of Michael Tuomey as state geologist. Prior to this date the professor of geology in the State University had been required to spend a portion of his time, not exceeding four months each year, in making geological explorations of the state. The Act of 1848 required reports to be made to each biennial session of the legislature, but Tuomey's first biennial report was not published until 1858. This little volume of 176 pages was accompanied by a geological map. The report itself is full of local details regarding the regions visited. In his second report published later in the same year, after his death, the information is more complete and shows that the presence of the chief deposits of iron, coal, copper, and building stone were then known but only slightly utilized. Even building lime which might easily have been supplied from the extensive limestones of the state was imported, via Mobile, to the extent of over 30,000 tons a year.

Tuomey, who resigned from his professorship in 1854, continued as state geologist until his death in March 1857. That his work was little appreciated

at the time is shown by the difficulties encountered by Professor Mallet in getting his reports published.

Mississippi.—An agricultural and geological survey of Mississippi was established in 1850 in connection with the State University but no report was issued by Professor Millington before his resignation. In 1854 Professor B. L. Wailes, his successor, issued a "report on the agriculture, geology, social and natural history" of the state which attempted to cover such a wide field that it has been recently described as "by no means of a high order." The same year Lewis Harper was elected professor of geology. The succeeding year he was given time for field work and an able assistant, Professor E. W. Hilgard, but when his report appeared in 1857 he too was forced to resign. This report was accompanied by a colored geological map but could not, from the nature of the case, show any extensive mineral deposits such as were known to occur in neighboring states. In 1858 Hilgard became state geologist and under his direction a satisfactory systematic survey of the state was made resulting in his widely known *Report on the Geology and Agriculture of the state of Mississippi,* which appeared in 1860.

Texas.—The early attempts at a systematic study of the results in Texas were also unsuccessful. A good beginning for a systematic survey of the state was made in 1858 by the appointment of Dr. B. F. Shumard, who brought out a small pamphlet, under date of 1859, dealing with coal, petroleum, and other mineral products of the state. Shumard was, however, forced out for political reasons in 1860, and Dr. Francis M. Moore was appointed.

Arkansas.—A geological survey of the state was organized in 1857 under David Dale Owen as state

geologist, who remained in office until his death in 1860. Two reports were published covering the northern and middle and southern counties respectively. Both reports describe the individual counties and give special attention to the iron and coal. With the completion of the second report all the areas of coal had been delimited, and the quantity and quality of the coal tested. The iron ores had been examined and large deposits of marble and other building stone discovered.

Missouri.—Prior to the inception of geological work under state auspices several National expeditions had traversed the state and reported on the mineral deposits examined. It was not until the spring of 1853 that a state geological survey was really inaugurated by the appointment of Professor G. C. Swallow as state geologist. He remained in office until work was stopped in 1861. Several short annual reports were issued and one of greater length (1854) containing a more extended discussion of the then more important mineral resources. The lead industry was then estimated to yield three and a half million pounds and the iron industry a few thousand tons of pig iron yearly. The legislature authorized Professor Swallow to publish the results of the survey, but the project was abandoned on account of the expense.

Kentucky.—As early as 1828 W. W. Mather made a short report to the Governor of a geological reconnaissance of the state. The first systematic survey started in 1854 with the appointment of David Dale Owen as state geologist. During the years 1854-60, four large reports profusely illustrated and aggregating fully 2000 pages were published. These deal largely with economic and agricultural matters and were esteemed of great value in depicting the occurrence of valuable deposits of

iron, coal, and other useful minerals and in preventing wasteful exploitation.

Tennessee.—In marked contrast to the experience of Texas was that of Tennessee. Here a geological survey was established in 1831 with Gerard Troost in charge. During its existence of 14 years nine annual reports were prepared. The third of these issued in 1835 was accompanied by a geological map showing the areal distribution of the coals and other economic products west of the Tennessee River. The fourth report appeared in 1836; the fifth in 1837, the latter containing the first geological map of the entire state and a colored vertical section across the state from Roane Mountain to the Mississippi. The succeeding reports appeared regularly, the ninth and last being issued in 1848. All of these, which are small pamphlets, aided in the spread of knowledge regarding the mineral wealth of the state.

Troost remained state geologist until his death in 1850. Four years later the legislature established a second survey under the leadership of J. M. Stafford who published two biennial reports prior to the outbreak of the war. The final report, a volume of 550 pages, was not published until 1869.

BIBLIOGRAPHY.—Bowker, R. R.: *State Publications* (New York, pub. weekly, 1908); Branner, J. C.: "The Geological Surveys of Arkansas" (*Jour. Geol.*, Vol. II, 1894, pp. 826-836); Clark, Wm. B.: "Historical Sketch," embracing an account of the progress of investigation concerning the Physical Features and Natural Resources of Maryland (*Maryland Geol. Surv. Report*, Vol. I, 1897, pp. 43-138); Klittke, M.: "Entwicklung, Organization und Leistungen der geologischen Landesaufnahmen in den Vereinigten Staaten" (*Zeit. f. prak. Geol.*, Vol. II, 1896, pp. 211-213, 289-352); Merrill, Geo. P.: "Contributions to the History of American Geology (U. S. Natl. Mus. *Report* for 1904, Washington, 1906, pp. 189-724); Smith, E. A.: "Geological Surveys in Alabama" (*Jour. Geol.*, Vol. II, 1894, pp. 275-287); Winslow, A.: "Geological Survey in Missouri" (*Jour. Geol.*, Vol. II, 1894, pp. 207-221).

EDWARD BENNETT MATHEWS,
Professor of Mineralogy, Johns Hopkins University.

ECONOMIC STATISTICS IN THE SOUTH.

The official publications of the Southern states prior to the Civil War are a veritable storehouse of material for the economic history of the Southern people. The chief economic problem of the time was the building up of efficient banking and transportation agencies, and the reports of legislative committees and state officials are invaluable in any study of this development. The state publications contain, however, very little of such statistical and other information as forms the basis of economic, as distinguished from historical, inquiry. In the comparatively simple plantation and frontier life of the period those agencies of governmental inspection and regulation, which in a more complicated stage of society gather economic data in the course of their duties, were not called into existence, nor did the states make provision for any formal inquiry into general economic questions.

The chief essays of the old South in statistical investigation were the state censuses made in a number of Southern states, e. g., in Georgia, 1824, 1831; Alabama, 1844; Texas, 1847; Virginia, 1846; Arkansas, 1854, 1858. In some cases these censuses furnish valuable supplementary data to that contained in the Federal censuses. The only instance which is known to the present writer of the erection of a permanent bureau for collecting economic information in the South was the establishment in 1848 by the State of Louisiana of a Bureau of Statistics. Mr. J. D. B. DeBow, afterwards superintendent of the United States Census, was placed in charge. In 1852 a voluminous report was made by the Bureau to the legislature. This was not published, but the material was probably utilized by DeBow in his encyclopedic pub-

lications, and particularly in his historical and statistical sketches *The Industrial Resources, etc., of the Southern and Western States* (1852-53).

BIBLIOGRAPHY.—DeBow, J. D. B., Supt.: Introduction to the First Report of the Bureau of Statistics, Jan. 1, 1850, *n. t. p.;* Phillips, U. B.: Public Archives of Georgia (in *Annual Report* of Amer. Hist. Assoc., 1903, I, 455 *et seq.*).

GEORGE E. BARNETT,

Associate Professor of Political Economy, Johns Hopkins University.

CONTRIBUTIONS OF THE SOUTH TO ECONOMIC THOUGHT AND WRITING TO 1865.

THE first real study of economic problems which appeared in the South and which seriously influenced the thought of any considerable number of men was that of George Tucker.* In 1813 and 1814 Tucker, then a prominent lawyer in Lynchburg, Virginia, wrote a series of articles for *The Port Folio,* a Washington periodical, under the general title: *Thoughts of a Hermit.* Four of these studies treat of economic subjects in an original and very suggestive manner. Their specific titles were: "On the Future Destiny of the United States," "On Density of Population," "On National Debts," and "On Banks of Circulation."

In 1822 these essays were collected, and with some additions, a chapter on Malthus' theory of population, for example, republished in book form, the later title being: *Essays on Various Subjects of*

*George Tucker was born on the Island of Bermuda in 1775; he was educated at William and Mary College, entered upon the practice of law in Lynchburg about 1798, became a member of Congress in 1819, being reelected until 1825; in the latter year he became professor of moral philosophy and political economy at the new University of Virginia, where he remained until 1845. He died at Sherwood, Va., 1861.

Taste, Morals and National Policy, by a Citizen of Virginia.

Meantime Jefferson had been planning his University of Virginia whose doors were expected to be opened at any time after 1820. Soon after this scheme for a great state school was presented to the legislature and rejected, Jefferson received a letter from J. B. Say expressing the purpose of emigrating to Virginia. The retired statesman returns at once to his plan for the best "seminary in the United States" with the aim now of making the famous economist its principal professor. But legislators are not characterized by the desire to strike "while the iron is hot," and so Virginia did not secure the services of so great a scientist.

Jefferson was also in close touch with Dupont De Nemours, the elder, an economist of considerable reputation, as well as with the former senator, Destutt de Tracy, of France, whose philosophical works he classed among the greatest writings of his generation. In 1814 * Tracy was about to publish a treatise on political economy which Jefferson undertook to bring out simultaneously in this country in the form of a translation. William Duane of the *Aurora* procured a translation which Jefferson carefully revised and turned over to a Georgetown, Virginia, printer who published the book in 1817 under the title of a *Treatise on Political Economy.* The name of the translator was never given out. A second edition was issued in 1820. Jefferson aided greatly in the distribution of the work among public men. Tracy was an economist of the classical school who was, however, more conservative on the subject of fiat money than his confrères. His statement that banking was prop-

*Patton, John H., *Jefferson, Cabell and the University of Virginia,* 76, 94.

erly only an establishment for facilitating exchange, but that bankers form large companies to offer other services to the public with a view solely to exact larger rewards and finally "after the emission of a great number of notes" obtain authority to refuse payment and thus introduce paper money,* was likely to meet the approval of such "hard money" men as Jefferson, John Taylor and Nathaniel Macon, still leaders in Southern thought.

Failing to secure prompt coöperation in the establishment of his university Jefferson had failed also, as has been seen, to entice Say to Virginia. He then turned to Thomas Cooper, who was about to publish an edition of Say's *d'Economie Politique* in English, and engaged his services as professor of chemistry, but with the expectation that that virile and versatile scholar would find time to teach economics. When Cooper was compelled in 1820 to resign because of a storm of orthodox criticism of his Socinian views, Jefferson was left adrift. He finally, when the university was about to open its doors, engaged George Tucker as professor of moral philosophy and political economy, thus preserving in America the title which Adam Smith had made famous at Edinburgh. But Tucker's teaching of economics, which continued until 1845, was not the kind which Jefferson had desired. Tucker was not opposed to paper currency and he became an able advocate of the national banking system. Tucker's ideas were nevertheless in close harmony with those of the classical economists and he popularized in the South the teachings of Ricardo, Say, and others on the subjects of rent, wages, and profits. He published, in 1837, *Principles of Rent, Wages and Profits;* in

*See outline of the treatise on page 21.

1839, *The Theory of Money and Banks Investigated;* in 1842, *Correspondence with Alexander H. Everett on Political Economy;* in 1843, *Progress of the United States in Population and Wealth in Fifty Years;* and in 1857, *Banks or No Banks,* all of which were creditable if not profound studies in the field of economics. Tucker in his *Progress of the United States* was the first to attempt to demonstrate that slavery was in 1840 showing signs of decay in the older South for economic causes, and that these would ultimately lead to the extinction of the system in the South.*

In point of time, however, South Carolina was first in the South, perhaps in the country, to establish permanent courses of instruction in economics. While the sharp fight in Virginia on Cooper was at its height the trustees of South Carolina College secured that able man as professor of chemistry. Cooper commenced his work in 1820, was made president of the College in 1821; in 1823 he recommended the discontinuance of the teaching of metaphysics and the substitution of a course in political economy.† He won his point to the extent that he was asked to offer during the next year lectures on political economy which seniors were expected to take. The new subject proved attractive and popular, and in 1826 Cooper published *Lectures on the*

---

* In addition to important publications upon practical economic questions, to which reference has been made above, the Southern states, prior to the war, produced a number of original or reprinted theoretical treatises or manuals of economic science. There has been apparently no attempt made by economic bibliographers to enumerate these, and the following items are doubtless only a small part of what careful search would disclose: Daniel Raymond, *Thoughts on Political Economy,* in two parts, Baltimore, 1820; *ibid., The Elements of Political Economy,* in two parts, second edition, two volumes, Baltimore, 1823; *ibid., The Elements of Constitutional Law and of Political Economy,* fourth edition, Baltimore, 1840; Thomas Cooper, *The Elements of Political Economy,* Columbia, S. C., 1826; *ibid., Lectures on the Elements of Political Economy,* second edition, with additions, Columbia, S. C., 1831; *ibid., A Manual of Political Economy,* Washington, D. C., 1834.

A number of the works of the English classical economists were reprinted in Georgetown soon after their publication in London: Malthus, *Essay on Population,* third London edition, two volumes, Washington, 1809; Ricardo, *On the Principle of Political Economy and Taxation,* Georgetown, 1819; Malthus, *Additions to an Essay on the Principle of Population,* Georgetown, 1831.

†La Borde, *History of South Carolina College,* 94, 121 on.

*Elements of Political Economy.** He was, I believe, the first American teacher to publish a formal treatise on the subject. Cooper's influence was already great in South Carolina and it steadily grew until the whole South acknowledged his power as an intellectual leader.†

While Cooper had in early life vigorously opposed the African slave trade, he did not oppose slavery in South Carolina, except to show that slave labor was more expensive than the so-called free labor of the North. He died however before the slavery question became the burning issue in the country. In general, as was to be expected, he adhered to and taught effectively the theory and the doctrines of the classical economists.

But the one man who, after Jefferson, influenced most the thought of the South along economic lines was Thomas R. Dew, professor of history, metaphysics, and political law in William and Mary College from 1827 to 1846. Dew was reared on a King and Queen county plantation in " tidewater " Virginia. He " graduated " at William and Mary in 1820 when he was only eighteen years old. The next two years were spent in study and travel in Europe, and the next five in study and observation on his father's plantation. He then commenced his work at his *alma mater*. His teaching at that famous seat of learning was immediately revolutionary. While he was engaged to teach many subjects he knew how to make all converge upon his chosen field. Two years after he went to Williamsburg and three after the appearance of Cooper's *Lectures,* he published *Lectures on the Restrictive System.*‡

**Lectures on the Elements of Political Economy.* By Thomas Cooper, M. D., Columbia, S. C., 1826.

†*Works of Jefferson*, XII, 194; *Niles Register*, XXXIII, 17, 28.

‡For a good brief account of the life of Dew, consult *Branch Historical Papers*, Randolph-Macon College, Virginia, Vol. III, No. I.

In these *Lectures* Dew, like Cooper, adapts the teachings and views of Smith, Ricardo, Malthus, Say, and Tracy to American conditions. The author, though very desirous to eschew all political and partisan considerations, makes out a strong case for free trade and the Southern cause as it then appeared in national life. He condemns all encouragement to domestic manufactures. Let the inclinations and local conditions determine what one's vocation shall be. The great injury which he sees in a protective, or restrictive, system is the building up of one class at the expense of another. Whether such a policy is constitutional he desires not to say, yet he contrives to let his students see that his private opinion is all against the constitutionality of protection.

A greater work though than Dew's *Lectures* was the famous argument which he delivered before a Virginia legislative committee in the early winter of 1832. The old Jeffersonian plan to abolish slavery in Virginia was once again before the legislature and as a result of the Nat Turner insurrection of 1831 it was not at all improbable that slavery would be put in the way of gradual but certain extinction. Petitions had come in from all parts of the state, and many prominent men were in Richmond to influence the decision. Dew was one of these. He was publishing articles in the Richmond papers controverting the powerful arguments of the anti-slavery advocates. The leading Virginia abolitionists designed to call on the Federal goverment for financial aid, which it was confidently expected would be granted.

After much open discussion in the House a bill was passed favoring gradual emancipation and deportation of the slaves. This bill went to the senate and was referred to a committee which held

many sessions and hearings. It was before this committee that Dew's original and revolutionary ideas were elaborated, and there can be no doubt that he influenced the decision which was adverse to emancipation in any form. Soon after the adjournment of the legislature Dew published his *Review of the Debate in the Virginia Legislature, 1831-32.*

Dew cleared the ground by doing what few other Virginians would have done then or since, publicly: he declared that the doctrine of Jefferson, that "all men are born free and equal," "that slavery is an evil," "that the slave has a natural right to regain his liberty," all "most pompously put forth," was wrong.* Without deciding the question of right pointedly himself, he goes to the Bible to prove that slavery was divinely decreed,† and proceeds to show that negroes in bondage are mere property.‡ While the negro slave is property he is yet "the happiest of the human race," § and finally he shows that slavery has become profitable to Virginians who can "raise cheaper than they can buy; in fact, it is one of their greatest sources of profit, for slaves multiply with us more rapidly than in most of the Southern states." Not only does he show that slavery is not wrong, that the slaves are happy, but that "the institution" is an economic blessing to Virginia and the South.

The remainder of the carefully and ably constructed treatise shows easily that colonization in some portion of Africa would be silly and ridiculous, and that emancipation without colonization would be, and then was, impossible.

The Southern Literary Messenger published an address from Dew in 1836 which may be regarded as a sort of corollary of the more famous *Review.* This is fairly expressed in the following: "In the

Pro-slavery Argument, Ed. 1852, 354. †*Ibid.*, 318. ‡*Ibid.*, 312. §*Ibid*, 442.

meantime I may boldly assert that the framework of our Southern society is better calculated to ward off the evils of this agrarian spirit [demand of the majority to rule the nation] which is more destructive to morals, mind and liberty than any other mentioned in the annals of history. Domestic slavery, such as ours, is the only institution which I know of that can secure the spirit of equality among free men, so necessary to the true and genuine feeling of republicanism, without propelling the body politic at the same time into the dangerous vices of agrarianism and legislative intermeddling between the laborer and the capitalist.''* And after some discussion of the proper gradations of society, he concludes: '' expediency, morality and religion alike demand its [slavery's] continuance; and perhaps I would not hazard too much in the prediction that the day will come when the whole confederacy [the United States] will regard it as the sheet anchor of our country's liberty.''

This is, so far as the present author is aware, the first formulation of the economic doctrine for which the South was to risk everything in 1861. There had been others to deny that slavery was an evil and some to find justification for it in Holy Writ; but Dew works out a creed based both upon the authority of the Bible and upon the stronger ground of economic necessity. And the idea that slavery obviates the conflict of interest between capital and labor by making labor and capital one and the same thing was new to the South. The owner of '' his labor '' could not refrain from treating labor kindly, especially since '' labor '' was endowed with the procreative power which not only replenished the master's capital but added a profitable increment.

From 1832 to the end of his life Dew was re-

*The Southern Literary Messenger, II, 277.

garded in the South as a philosopher and economist of the first rank; his *Review* was frequently reprinted and his further writings sought after and quoted wherever and whenever the "peculiar institution" of the section was to be defended or justified.

Chancellor William Harper of South Carolina in his *Memoir on Slavery** still further elaborates Dew's notion about the economic usefulness of slavery, building up a complete caste system based upon the divine origin of the institution and buttressed by a military system which would require a regular standing army supported by the state for the security of society. Dew's point that slavery unites the capitalist and the laborer, thus doing away with crises and strikes, Harper carries to its logical conclusion that labor is subject to a certain "iron law" which "political economists have established as the natural standard of wages," viz., the value of the laborer's existence, but the slave has this and the care of his children and the services of a physician with a maintenance during old age.† Harper was long chief justice of South Carolina and his high official station lent weight to this strong logical reasoning on the economic basis of Southern agricultural industry.

William Gilmore Simms, the Autocrat of the Southern "Breakfast Table," J. H. Hammond, one of the ablest of the younger generation of Southern leaders, Robert B. Rhett, the great editor-agitator of South Carolina, William L. Yancey and Jefferson Davis accepted the new economic system, if I may credit Dew with the invention of a system, and popularized it in legislatures and on the stump, that favorite tribunal of those times.

Calhoun who, after 1833, gradually won the place

**Pro-slavery Argument*, 1–98.
†*Pro-slavery Argument*, pp. 26–27.

which Jefferson had held in the affections of the Southern people, built his system of political science, which appeared in book form soon after his death, upon the foundations laid by the Williamsburg economist; but, during the intervening years when the economic and political thinking of the South was taking shape, Calhoun's speeches and letters to his many correspondents shaped the thought of the people in the same direction as nothing else could have done.

The political consequence of this teaching was not only the maintenance of institutions, as they were in the South, but, as Dew said in his address of 1836, their spread into the West and North. The whole country must become " all slave or all free " and Dew thought it would be all slave. From 1856 when it became clear that a further expansion in the West was problematical, Yancey, Spratt of South Carolina, and A. G. Brown of Mississippi * urged the expansion and popularization of the Southern labor-system so that all Mexico and the Spanish West Indies should be comprehended in its sweep. It should be popularized by the removal of all bars to the importation of fresh savages from Africa since this would lower the price of negroes to such a level that every man of energy and worth might become a slave holder. This was to them both an economic and a political move, economic in that all should participate in the benefits of slavery, and political since it would increase the power of the South in national law making. It was only the endeavor to execute what Dew taught during his whole career at William and Mary.

The work of Cooper in South Carolina was continued from 1838 to 1856 by Professor Franz

*Yancey and Spratt in speeches and reports of committees before the Southern Commercial Convention at Montgomery, 1858; and Brown in the *Speeches, Messages and Other Writings of the Hon. A. G. Brown*, Philadelphia, 1859, 593–594.

Lieber, one of the great scholars of his time. But Lieber's *forte* was political philosophy and his writings bore more upon historico-political problems than upon those of economics; and similarly Beverly Tucker supplemented and continued Dew's influence in Virginia. In Virginia also labored for a short time Professor Henry Vethake. He was president and professor of political economy in Washington College* from 1834 to 1836 where he delivered lectures which were published in 1838 under the title of *The Principles of Political Economy*. Vethake was probably the ablest economist in the country, a "classical" with views of his own on rent, population, and the constituent objects of wealth. But Vethake was not sufficiently identified with the South to influence materially its thinking.

J. D. B. DeBow, born in Charleston, educated exclusively in South Carolina, for some years a lawyer and writer for Southern periodicals, became editor of the *Southern Quarterly* in 1844. He removed to New Orleans and established his famous *Commercial Review* in 1845-46. In 1848 he was made professor of political economy in the University of Louisiana, and in 1853 he became superintendent of the United States census on the recommendation of Jefferson Davis. DeBow's mission was to develop the South along industrial lines. But he brought out the best economic thought of this region in the many contributed articles which he printed in his *Review*, and he was the most active promoter of the Southern commercial conventions which met annually from 1845 to 1859 and which did much to forward railroad building and direct trade with Europe from ports like Norfolk and Charleston.†

*Now Washington and Lee University, at Lexington, Va.

†For an excellent account of DeBow and his magazine see *The South in the Building of the Nation*, VII, 455, article by Professor Mims.

Finally George Fitzhugh of Port Royal, Virginia, published in 1854 his *Sociology for the South* and in 1856 *Cannibals All,* books which treat as much of economics as of sociology though of neither in a strictly scientific manner. Fitzhugh's teaching is the logical conclusion of Dew's. Dew held fast to the *laissez-faireism* of Jefferson and Cooper notwithstanding his view as to slavery. Fitzhugh attacks unmercifully the views of Adam Smith, Ricardo and Say, contending that free trade and do-nothingism are the ruin of a country and especially the South. He is a protectionist who asserts that all the needful things of a community must be produced in the community, if lasting prosperity is to be expected. He believes that free competition has been the ruin of Western Europe—it exposes the weak to the merciless exploitation of the strong. The strong according to his system must be held responsible by society not only for production but for the security of the lives and comforts of the laboring classes. Jefferson and the whole democratic program of the early Nineteenth century he denounces as unworthy of the support of intelligent men.

It is a paternalistic state, like that which Carlyle was disposed to glorify, that Fitzhugh wishes to establish, except it is the State, not the Federal, government which shall assume the responsibility of taking care of the multitudinous affairs of society. More consistently therefore than Dew he maintains that slavery is the normal condition of the great mass of men. He quotes with approval the following from a sarcastic letter of Jefferson: "some [men] were born with saddles on their backs * and others booted and spurred to ride them," adding that "the riding does them good. They need the reins, the bit and the spur."

*Sociology for the South, 179.

Fitzhugh exerted much influence as he spoke for a large element in the South; but he was by no means so powerful as Dew had been. The war came too soon for his teaching to influence so many people. He contributed to the New York *Day Book*, the Richmond *Enquirer, DeBow's Review* and the *Southern Literary Messenger,* he was on friendly relations with abolitionist leaders like Gerritt Smith and Mrs. Stowe; and he lectured with some acclaim at Yale in 1856 on his favorite subject, the failure of free society. He lived a quiet, scholarly life in his out-of-the-way country town, conducting a correspondence with men of thought both in this country and in Europe.

BIBLIOGRAPHY.—*Branch Historical Papers* (Vol. III, Randolph-Macon College, Ashland, Va., 1901); Brown, A. G.: *Speeches, Messages and Other Writings* (Philadelphia, 1859); Cooper, Thomas: *Lectures on the Elements of Political Economy* (Columbia, S. C., 1826); Dew, Thomas R.: *Lectures on the Restrictive System* (Richmond, 1829); *Review of the Debates in the Virginia Legislature, 1831-32* (Richmond, 1832); Fitzhugh, George: *Sociology for the South, or the Failure of Free Society* (Richmond, 1854); *Cannibals All, or Slaves Without Masters* (Richmond, 1856); Harper, William; Simms, W. G., and others: *The Pro-Slavery Argument, etc.* (Charleston, 1852); Jefferson, Thomas: *Works* (The edition by Paul Leicester Ford, Vol. XI, New York, 1904-05); LaBorde, Maximilian: *History of the University of South Carolina from Its Incorporation to December 19, 1865, including Sketches of Its Presidents and Professors* (Charleston, 1874, 2d edition); Patton, John S.: *Jefferson, Cabell, and the University of Virginia* (New York and Washington, 1906); *The Southern Literary Messenger* (Vol. II); Tracy, Destutt de: *A Treatise on Political Economy* (Georgetown, 1817); Tucker, George: *Thoughts of a Hermit* (a series of essays published in the *Port Folio,* 1813-14); *Essays on Various Subjects of Taste, Morals and National Policy, by a Citizen of Virginia* (Georgetown, 1822); *Principles of Rent, Wages, and Profits* (Philadelphia, 1837); *The Theory of Money and Banks Investigated* (Boston, 1839); *Correspondence with Alexander H. Everett on Political Economy* (1845); *Progress of the United States in Population and Wealth in Fifty Years* (New York, 1843); *Banks or No Banks* (Philadelphia, 1857); Vethake, Henry: *The Principles of Political Economy* (Philadelphia, 1838).

WILLIAM E. DODD,

Professor of American History, University of Chicago.

LAND RECLAMATION IN THE SOUTH.

The earliest settlements of the South were made on or near tidewater lands, where the enterprise of reclaiming small areas of marsh or overflow land was early undertaken by individuals or companies. The soil of these swampy areas is very fertile and it was in many cases found to be more economical to dig small drains than it was to clear the heavy growth of the uplands whose soil was less fertile. Many of the colonists, coming from the lowlands of Europe, were more accustomed to ditching and draining than they were to clearing the forest and digging out stumps, so that in selecting land for their farms the natural tendency was to choose the lower, more fertile, lands which require some drainage.

There do not appear to be any definite records or statements showing that this land reclamation was entered upon in a systematic manner, or that the reclamation by draining was considered as being any departure from the ordinary custom of the people. It was apparently accepted as a matter of course and without special comment.

As population increased and the need of more tillable land was experienced, there arose more ambitious attempts, mainly in the way of building levees along some of the southern rivers, with small floodgates to let the water out from behind the levees during seasons of drouth and to exclude it during flood. Attention was turned also to the practicability of draining some of the larger swamps. One of the largest, as well as the best known, of these is Dismal Swamp in southeastern Virginia, extending into North Carolina. In 1763 George Washington made a survey of the swamp and in the succeeding

year a company was chartered to drain it. The Revolution, however, put a stop to active work. In 1784 Washington wrote: "My researches at different times have enabled me to make the following observations: the principal rivulets which run into the Great Dismal are to the westward of it, from Suffolk southwardly; the Drummond's Pond is the receptacle of all the water which can force its way into it through the reeds, roots, trash and fallen timber with which the swamp abounds; that to these obstructions and the almost perfect level of the swamp are to be ascribed the wetness of it." At a later date a number of canals were cut into the swamp, mainly for transportation purposes.

At about the same time attention was given to some of the swamps in Florida, the first notable work of drainage being about 1770, by a colony of Minoreans, on the Great Turnbull Swamp, near New Smyrna, Florida.

The largest amount of systematic work in the South has been in connection with the levee system in the lower Mississippi Valley and especially in Louisiana, where drain ditches were dug leading back from the high ground near the rivers into the bayous, affording drainage of some of the swamp land. Records of this work appear to be quite meagre and during the Civil War many of them were probably lost, and the details of construction seem to have passed largely out of mind.

In general it may be said of all this reclamation work that it was undertaken with inaccurate information and without means to accomplish any considerable result. The drains proposed, or constructed, were usually too small for the purpose of drying out the larger swamps. There seems to have been very little appreciation of the vast quantities of water which must be removed quickly from any

overflowed area. Even at the present time there is conspicuous lack of definite information, and many of the larger projects on foot are being discussed in ignorance of the fundamental fact as to the volume of water which must be disposed of. As a consequence, although there was considerable activity in various localities throughout the South, very little land in the aggregate was reclaimed, with the exception of the narrow strip of land immediately back of the Mississippi levees.

It is also to be noted that in the Southern states where there is the largest area of swamp capable of reclamation there is also a very large extent of fairly good agricultural land which has not yet been improved, the relation of improved land to total acreage ranging in general from 10 to 25 per cent. The demand for additional areas for cultivation is therefore not such as would force the reclamation of large areas unless this could be done at small cost. Thus, these swampy lands, although containing some of the richest soil of the country, have been largely neglected. Centres of population and transportation lines have developed in such a way as to leave these opportunities almost untouched.

BIBLIOGRAPHY.—Letter from the Secretary of the Interior on the subject of Swamp Lands (Montgomery, Ala., 1852); Acts of Congress and of the State of Arkansas on the subject of Swamp and Overflowed Lands (Little Rock, Ark., 1850-57); Swamp Land Commissioners' *Reports* (Little Rock, Ark., 1852-56); Governors' *Messages* (Little Rock, Ark., 1852, 1854, 1856, 1858); Communications from the Governor to the Senate, Jan. 25, 1859, transmitting *Report* of E. H. Porter, *re* Swamp Lands (Little Rock, Ark., 1850); Swamp Land Secretary *Reports* (Little Rock, Ark., 1857-58, 1858-60); *Report* accompanying Governor's *Message* (Little Rock, Ark., Nov. 9, 1858); *Reports* of Internal Improvement Conventions, 1825, 1834, 1836; Swamp and Overflowed Lands, Correspondence (Tallahassee, Fla., 1851-52); Auditor of Public Accounts, Tabular Statement reported to the Senate by the Committee on Lands and Levees (Baton Rouge, La., 1848-57); Auditor of Public Accounts, Statement (*re* Swamp Lands) reported to the Senate (Baton Rouge, La., 1857); Auditor of Public Accounts, *Special Report* in relation to Swamp and Overflowed Lands (Baton Rouge, La., 1860); Swamp Land Commissioners' *Reports* (New Orleans, La., 1854, 1855, 1857, 1858,

1859, 1860); *Report* of the Joint Select Committee on Swamp Lands (Raleigh, N. C., 1842-43); *Report* of C. B. Shaw on the Drainage of Swamp Lands (Raleigh, N. C., 1838); Internal Improvements, Extracts from *Reports* on Public Improvements, published for the use of the Board of the Literary Fund (Raleigh, N. C., 1837); Executive *Message*, Swamp Lands (Raleigh, N. C., 1856); Acts and parts of Acts relating to James River (Richmond, Va., 1830).

F. H. NEWELL,

Director of the United States Reclamation Service.

UTILIZATION OF SOUTHERN WATER POWERS.*

THE use of water power for grinding corn and wheat and for sawing lumber began in Virginia in the early part of the Seventeenth century. In 1620 a request was made by the Virginia colony for skilled millwrights to construct water mills. In 1634 at least two such mills, one at Kecoughtan and one near Jamestown, were in operation. The numerous streams of Virginia furnished favorable sites for these mills and their number increased to meet the demands of the growing population. In 1649 there were five water mills for grinding grain in Virginia. Even at this early date the water mills were recognized as valuable public institutions and were encouraged by legislative enactments conferring special rights and privileges upon those undertaking their erection. Mills were also controlled by law which specified as a toll for grinding, one-sixth of the corn (in 1645) and one-eighth of the wheat (in 1671). The use of water power for saw mills began about the same time, and by 1650 saw mills were as numerous as grist mills in Virginia.

*For additional information see article "Manufactures during the Antebellum and War Periods."

The history of water powers in the South appears to divide itself into a number of distinct eras, three of which occur prior to 1865. The first of these records the beginning, and mentions in detail the growth, of that class of powers or rather of mills which serve the public and are known as neighborhood or custom mills. After the beginning, in the early part of the Seventeenth century, little further attention is given them more than the occasional mention of the number of them in certain districts. These mills, however, have never lost any of their original importance. They have kept pace with the growth of population and have at all times supplied the public demand. Although during recent years the small portable steam engine has done a share of the grinding, the water mill of the strictly custom-mill type is still to the masses of population the most useful application of water power in the South.

In the second era the principal records we have of the use of water power is for driving grist and flour mills of a somewhat larger type, having for their object the shipping of flour and meal to distant points. They were known as merchant mills.

In Maryland, at a point now within the city of Baltimore, a water power was used for grinding in the year 1711. Here the Patapsco River and its tributary Jones' Falls, offer a number of exceptionally good power sites which were utilized one after another mostly for grinding flour for export, an industry for which Baltimore became famous. By the year 1769 there were a number of important flour mills (perhaps eight mills) in the vicinity of Baltimore, and the exports from this city during that year amounted to more than 45,000 tons of bread and flour.*

*This was no doubt the output of many other mills beside the ones at Baltimore.

In North Carolina, in the year 1794, there were three "excellent flour mills" on the Cape Fear River at Fayetteville. In 1750 one or more mills were erected on Pinetree Creek near Camden, S. C., by Irish colonists, and a few years later other mills were established near the same place. The Revolutionary War stopped the operation of these mills which it is assumed were destroyed.

Soon after peace was restored three mills were reëstablished here, and in the year 1801, 40,000 bushels of wheat were ground by them. Soon afterward other merchant mills were erected at Laurens and at Greenville, S. C.

During the third era the use of water power in the South is mentioned principally in connection with the manufacture of cloth, mostly from cotton. For the manufacture of cotton goods, the Union Manufacturing Company of Maryland was incorporated in 1808 with a capital of $1,000,000. Water power for these mills was developed on the Patapsco River ten miles above Baltimore. A timber dam 170 feet long turned the water into a canal about one and one-half miles long. Two mills were built, each being designed for 10,000 spindles and the requisite number of looms. The first mill began operation in 1810 and the other one in 1814. The Washington Cotton Manufacturing Company was organized in 1809 and erected a mill on Jones' Falls, five miles from Baltimore. About the year 1827 subscriptions were completed for the erection of cotton mills on the Appomattox River at Petersburg, Va. Two large mills were put in operation.

Water power was used for carding and spinning cotton in South Carolina as early as 1790. Near Columbia, S. C., an important cotton factory was in operation prior to 1850. In Georgia a cotton factory was established on Little River in Morgan

county in the year 1810 but was not a success. The Oconee River in the vicinity of Athens has for a long time furnished power for cotton mills. The first successful Georgia factory operated by water power began here in 1828.

Princeton Factory on Middle Oconee River two miles above its junction with the Oconee and three miles from Athens, Ga., was established in 1836. The power developed by a dam nine feet high with 900 feet of canal, is about 100 horse power. The fall used is twenty feet. The Georgia Factory on Oconee River about one mile above its junction with Middle Oconee and four miles south of Athens, was established in 1840. A dam 10 feet high, and 1800 feet of canal here utilize a head of 20 feet, producing about 150 horse power. The Athens Manufacturing Company at Athens, Ga., began operations in 1847. Here a dam ten feet high and a short race give twelve feet of head and develop 180 horse power. These three powers are still in operation. Richmond Factory on Spirit Creek ten miles from Augusta, Ga., was established about 1835.

The Augusta canal at Augusta, Ga., was the greatest of Southern water power developments of its time. Dropping fifty feet in a few miles distance the Savannah River here represents 20,000 horse power at the minimum stage of the average year. In the year 1845 a company was organized for building a canal from the head of the shoals to the city, a distance of seven miles, to supply water power for various manufacturing purposes. Work was begun promptly and the first power was ready for use late in the following year. The canal was designed to carry five feet depth of water forty feet wide at the surface and twenty feet at the bottom. Water was turned into it by a low wing dam extending only a short distance into the river.

The amount of power developed was about 600 horse power, but this was soon afterward largely increased by raising the dam and canal bank so as to give a depth of seven feet. A further enlargement of the canal to practically its present size was finished in 1875. The first development was made by a private company with the endorsement and financial aid of the city of Augusta. In the year 1849 the city acquired full ownership. Power is now leased by the city to various manufacturing establishments.

The Columbus Factory on the Chattahoochee River three miles above Columbus, Ga., was established in 1834. This site has a fall of forty feet in a short distance, but only a part of this fall, as well as of the water was used. For many years, however, no power has been utilized here. The Cowetta Falls Factory in the city of Columbus, Ga., and operated by water power from the Chattahoochee River, was established in 1844. Prior to the year 1849 a number of other factories were put in operation at this same site and in 1851 the Eagle Mills were added. The site is now occupied by the Eagle and Phenix Mills, and Muscogee Mills which together utilize all the power of the river, developed with a dam and race giving twenty-five feet of fall. The present dam was built in 1865. The City Mills for grinding grain, located above the Eagle and Phenix dam, began operation prior to 1849.

The most important early water power development in Alabama was at Tallassee Falls on the Tallapoosa River. A cotton factory was established here in 1845 using however only a small part of the great power of the site which has since been fully developed by a dam and canal giving about sixty feet of head (finished in 1902). In 1854 the factory was greatly enlarged as was also the water power which

was some years later estimated at 1,000 horse power.

At Richmond, Virginia, the James River has a fall of 84 feet in three miles of distance. Here a canal originally constructed for navigation purposes furnished water power to a large number of mills and other industries as early as 1840. Among these industries were a cotton factory, 21 flour mills, 3 saw mills, 1 paper mill, 4 furnaces, and 8 forges. The Tredegar Iron Works, put in operation long before 1865, require a large amount of this power.

Historical collections noting the growth of water power development in the South are often lacking in dates, and many more or less important powers have not been included in this account because the date of establishment was not capable of determination.

As showing the magnitude of the early powers, a summary of those in Georgia made up from White's *Statistics of Georgia*, published in 1849, is here given. Not all of the counties appear to be represented, the figures given being for three-fourths of the counties: Cotton factories, 36; wool carders, 19; grist and flour mills, including merchant mills, 1,128; saw mills, 744. The factories and mills run by water power from the Augusta canal are not included.

From 1849 up to and including the early part of the war, Southern industries requiring water power developments increased rapidly. During the closing period of the war there was a great loss due to general conditions incident to the war, and especially to the destruction by fire of many mills and factories. On this account the figures of the United States Census for 1870 will probably not over estimate the amount of power utilized just prior to 1865. These figures are as follows: Alabama, 11,-

011 horse power; Arkansas, 1,545 horse power; Florida, 528 horse power; Georgia, 27,417 horse power; Kentucky, 7,640 horse power; Louisiana, 142 horse power; Maryland, 18,461 horse power; Mississippi, 2,453 horse power; Missouri, 6,644 horse power; North Carolina, 26,211 horse power; South Carolina, 10,395 horse power; Tennessee, 19,-514 horse power; Texas, 1,830 horse power; Virginia, 41,202 horse power; West Virginia, 10,195 horse power.

Bibliography.—Bishop, J. L.: *A History of American Manufactures* (3 Vols., New York, 1879-86); Bruce, P. A.: *The Economic History of Virginia in the Seventeenth Century* (2 Vols., New York, 1896); *DeBow's Commercial Review of the South and West* (New Orleans, 1846-1870; Howe, Henry: *Historical Collections of Virginia* (Charleston, 1845); North Carolina Geological Survey; *Bulletin* 8, *Water Power;* Sherwood, Adiel; *A Gazetteer of Georgia* (4th edition, Atlanta, 1860); Tenth United States Census, *Water Power;* United States Census of Manufactures, *Bulletin* 88; United States Geological Survey Nineteenth Annual Report, Part 4, *Hydrography;* United States Geological Survey, Water Supply Paper Number 107, *Water Powers of Alabama;* White, George: *Historical Collections of Georgia* (New York, 1854); White, George: *Statistics of the State of Georgia* (Savannah, 1849).

M. R. Hall,

District Engineer of the United States Geological Survey.

SOUTHERN AGRICULTURAL FAIRS AND EXPOSITIONS.

The organization, building, and conduct of a fair or an exposition requires practical unanimity of sentiment on the part of the community in which it is held, and concerted and harmonious action by those to whom its promotion and operation are entrusted. A municipality, a state or a section, proud of its history and its achievements, confident of its resources and believing in its future, is immeasurably benefited by an undertaking which promotes and

strengthens those patriotic sentiments. That economic and industrial results of great benefit will follow is so sure as to be axiomatic.

Before the Civil War the South moved slowly in the direction of agricultural betterment. *DeBow's Review* in 1847 said: "It is a common complaint founded also upon too melancholy a truth that the Southern states have been content to prosecute agriculture with little regard to system, economy or the dictates of liberal science." The organization of societies to hold fairs did not become general in this section of the country until about 1855. But results were notable especially in states where the monotonous growing of cotton or tobacco had begun to impoverish the soil. In 1855 state fairs were held in Alabama, Georgia, Kentucky, Maryland, North Carolina, and Virginia. Tennessee that year held two fairs,—one in east Tennessee, the other for the state in general.

In 1855 the movement to organize and to hold fairs had become so potent that every Southern state had a vice-president in the United States Agricultural Society. These vice-presidents were:

Delaware, C. H. Holcombe; Maryland, H. G. S. Key; Virginia, G. W. P. Custis; North Carolina, Henry S. Burgwyn; South Carolina, James Hopkinson; Georgia, D. A. Reese; Florida, Jackson Morton; Alabama, A. P. Hatch; Mississippi, A. G. Brown; Louisiana, J. D. B. DeBow; Texas, T. G. Rusk; Kentucky, B. Gratz; Tennessee, M. P. Gentry; Missouri, Thomas Allen; Arkansas, T. B. Flournoy. These were strong men in their respective states, devoted earnestly to economic development.

Virginia held a series of state fairs beginning about 1850. In 1854 the Virginia Agricultural Society congratulated the state that "much practical

information has been diffused. New zeal for improvement has been awakened. Emigration has ceased. Immigration has commenced. Price of lands has rapidly advanced. Our schools and colleges are crowded to overflowing. The close of another year finds us on the eve of a still grander exhibition." The annual fair became so popular in Virginia that Richmond contributed $54,000 in land and money towards it. Agricultural education was greatly stimulated as the result of the Virginia state fairs. In 1857 the exhibit of agricultural machinery had become one of the most conspicuous features of the annual fair.

Two years before the war began, Mississippi organized an agricultural bureau as part of the state government. The legislature made an appropriation for the improvement of fair grounds, for premiums and for seeds.

Kentucky was the foremost of the Southern states before 1861 in exhibitions of live stock. These fairs, with their speed contests, held with annual regularity at the centres of live stock breeding gave the state a world-wide reputation for fine stock.

Georgia began holding fairs at Macon, as early as 1845. At the fair in 1852, a premium of $100 was offered " for the best essay on the treatment and management of slaves." A grand plowing match was on the programme. Premiums were offered for the best essays upon a variety of agricultural topics, among them the growing of crops other than cotton. At one of the earlier South Carolina fairs, held at Columbia, a premium was offered for the best printed newspaper.

In those Southern states where the soil was richest and where the plantations, as a rule, were large, occasional fairs were held, but the support of them languished. Louisiana had a state agricultural so-

ciety organized as early as 1844. In 1848 *DeBow's Review* announced that the society had "had four annual celebrations. Orations were delivered, reports read and products exhibited. No general interest, however, was evinced in the society and the attendance and patronage were always limited." In 1850 effort was made to induce Louisiana planters to send specimens of their choicest products to the World's Fair in London. In 1853 committees were appointed to consider the expediency of a World's Fair at New Orleans. In a letter to the official having charge of the agricultural bureau at Washington, DeBow wrote: "The planters are not partial to agricultural societies among themselves."

Florida attempted her first fair in 1852. The exhibition was held at Tallahassee and aroused, according to the current accounts, considerable enthusiasm over the state's resources. The same year Texas held her first fair, combining agricultural and manufactured exhibits. The fair was held at Corpus Christi; in connection with it was a convention which was addressed by Ashbel Smith. A memorial urged upon the state government a liberal policy toward transportation needs, first by clearing the rivers of obstructions and second by encouraging road and railroad building.

South Carolina led the rest of the South in the organization of agricultural societies and in the holding of fairs. As early as 1784 that state organized its first agricultural association, which had continuous existence through the ante-bellum period. District agricultural societies were organized and fairs were held perhaps more regularly than in any other Southern state. In 1827, South Carolina had eleven agricultural societies. In 1847, a department of agriculture was organized in the college of South Carolina. Throughout the entire South, the South

Carolina Institute and its fairs aroused favorable comment. Local inspiration was found in the fact that "for seven or eight years cotton has not paid exceeding 4½ per cent. on capital invested." The agricultural reports of South Carolina attracted the attention of the South generally. Advancement may be traced in these South Carolina fairs. The early progress was in the direction of the diversity of crops. The exhibits showed the results of experiments with olives, dates, grapes, camphor trees, New Zealand flax and other products. At the South Carolina fairs addresses on economic subjects were delivered by John McDuffie, John C. Calhoun, and many others of wide renown. The orators were conspicuous exhibits. Francis Bonynge, who had lived in China and India, urged at these fairs that it was practicable to grow all of the tea that the United States was using. He believed the South could produce, at four cents a pound, the tea which was costing this country twenty cents. South Carolina entered upon experiments in tea culture.

From the fair was evolved the exposition. Of Charleston conditions in 1851, *The Southern Literary Messenger* said: "Recurrence of the racing season brings to town from all parts of the state the beauty and fashion of South Carolina. The city awakens from a condition of slumbrous quiet to all the animation of metropolitan gayety. The streets until lately empty or trodden only by a few listless pedestrians now swarm with elegant equipages and the fair forms of the gentler sex. There are not wanting fine shops filled with costly goods and wares to challenge the patronage of the ladies, and we repeat that one may go far before he will see a more attractive exhibition than the trottoir of King Street, narrow as it is, can furnish at this particular time."

Four years later the South Carolina Agricultural

and Mechanical Institute had organized and was holding an annual exposition in its own building at Charleston. This exposition became one of the annual events of the South. At the same time South Carolina entered upon the promising development of manufactures.

The experience of St. Louis affords one of the most impressive object lessons in the benefits of fairs and expositions. As early as 1822 an agricultural society was formed in St. Louis. Fairs were held at irregular intervals to exhibit agricultural products. Usually the place selected was the race track. Some years later St. Louis began the holding of what were known then as mechanics' fairs, now called expositions. These fairs were the crude developments of the exposition idea. They were exhibits of St. Louis industries and were given in some suitable building in the city. The agricultural fair and the mechanics' fair of St. Louis were entirely separate, conducted by different organizations, without conflict of dates. Thus, on the first Tuesday of November, 1841, the fair of the agricultural society of St. Louis was opened at the St. Louis race course. On the 24th of the same month the mechanics' fair was opened in buildings on the block where to-day stands the Merchants Exchange of St. Louis. It continued three days. The exhibition of " a St. Louis manufactured stove " at the exposition of 1842 was the public beginning of what became and is now one of the chief industries of the city.

Out of these earlier fairs developed the St. Louis Agricultural and Mechanical Association in 1855, the most ambitious movement of its day to exhibit agricultural resources and industrial products of the southwest. The association obtained a large tract of ground, erected permanent structures and

gave five annual fairs before the Civil War caused suspension. In that time the premium list had grown from $10,000 to $25,000. The attendance from the South and Southwest more than doubled. After the Civil War this annual fair was continued and became the direct precursor of the Louisiana Purchase Exposition of 1904. Had not the war intervened to check this general movement toward fairs and expositions in the South great material and social benefits to that section and perhaps to the nation would have resulted.

Bibliography.—DeBow, J. D. B. (ed.): *DeBow's Commercial Review of the South and West* (39 vols., New Orleans, 1846-1870); *Reports* of the United States Agriculture Society and of the United States Bureau of Agriculture when it was under the Commissioner of Patents before the war (1850); *Southern Quarterly Review* (New Orleans, 1842-1843; Charleston, 1844-1855); *Southern Literary Messenger* (Richmond, 1834-1864).

David R. Francis,

Formerly Governor of Missouri and President of the Louisiana Purchase Exposition.

ECONOMIC EXPERIMENTS IN COÖPERATION.

In the ante-bellum South, where the industrial organization was simple and the people were conservative, undertakings—coöperative, communistic, and profit-sharing—were unusual, and of those that did appear only a few were indigenous. It is interesting, however, to note that the very first Englishmen to make a permanent home in America—the settlers at Jamestown—were engaged in a coöperative undertaking. The Virginia Company's charter of 1606 provided for a common storehouse and a community of property and trade, and this arrangement seems to have been maintained for about six years. In

1619 a system of profit-sharing in the form of tenant-ship-at-halves was also introduced. In this instance coöperation was resorted to from necessity rather than from any desire to better the condition of humanity. Actuated by the latter motive, a colony of Labadists * emigrated from the Netherlands in 1683 to what is now Cecil county, Maryland, and sought to practice the communism of the early Christian Church. The settlement languished, however, and in 1698 the land was allotted to individual owners. Taking advantage of the religious excitement attending the great "Kentucky Revival," three Shaker missionaries began their labors in Kentucky in 1805, with the consequent founding of two societies, one at South Union and the other at Pleasant Hill. Fifty years later these communities together had between seven hundred and nine hundred members, all living on a coöperative basis. The numerous communistic and coöperative movements, such as Owenism and Fourierism, which attracted so much attention in the Northern states, passed almost unnoticed in the South. A faint echo of Owenism was Miss Frances Wright's support from 1825 to 1828 of the unsuccessful Nashoba Community of negroes in Shelby county, Tennessee, created for the purpose of raising the social and economic status of the slave. The Fourierites, though confined mainly to the Northern states, had at least one "phalanx" in the South, at Wheeling, (now West) Virginia.

Étienne Cabet, the French communist, sought to establish in Texas the Icaria of his dreams and purchased in that state a tract of one million acres. The vanguard of the Icarians arrived from France in the spring of 1848, but during the summer their ranks were thinned by fever, and in September the sur-

* Followers of John de Labadie, the founder of a communistic society in Amsterdam.

vivors removed to Nauvoo, Illinois. In 1858, one hundred and fifty seceders from Nauvoo attempted a new coöperative experiment at Cheltenham, six miles west of St. Louis, Missouri, and held together until 1864. Some years earlier, in 1844, the communistic village of Bethel, Shelby county, Missouri, was established by a Dr. Kiel, and it survived until 1880.

Such experiments were not confined to the white race. There were, of course, no organizations among the slaves, but free negroes had their mutual benefit societies, created chiefly for giving showy funerals, as early as 1835; and one of the earliest assessment companies, the St. James' Beneficial Society of Baltimore, created about 1850, was a negro institution.

On the whole, it may be said that the South before 1865 was not a congenial field for experiments along the line of economic reform; the instances which have been cited are interesting mainly on account of their rarity.

Bibliography.—*Bulletins* Nos. 6 and 35 of the United States Department of Labor, prepared respectively by E. W. Bemis and Alexander Kent, contain much information on coöperation. Other important works are James, B. B.: *The Labadist Community in America* (*in Johns Hopkins University Studies in Historical and Political Science*, XVII); Hillquit, M.: *History of Socialism in the United States* (New York, 1903); Noyes, J. H.: *History of American Socialism* (Philadelphia, 1869); and Nordhoff, C.: *Communistic Societies in the United States* (New York, 1875).

William O. Scroggs,

Assistant Professor of History and Economics, Louisiana State University.

GENERAL SOCIAL CONDITIONS.

IMMIGRATION TO THE SOUTHERN STATES, 1783-1865.

UP to the year 1850 there had entered at the United States ports, so far as the records show, 2,392,549 persons from foreign countries. That these figures fall far short of the actual numbers is known, but, as practically no records were kept during the greater part of the period, these must be used, with the reservation that they are much less than the truth. Of this total, with the same reservation, 304,873, as shown by the census figures, were in the fourteen Southern states in the census year. The period was one of migration and immigration in all parts of the country and this, in addition to the unsettled condition of the country, and the lack of transportation facilities, made accurate census taking yet more difficult. Large numbers of foreigners, especially from the British Isles, came in by way of Canada, and there is sufficient evidence to show that many more came than were ever enumerated.*

There were during this period two distinct movements of population—the internal migration from the east to the west, and the influx of people from Europe. Compared with the number that came and

* Jesse Chickering, in a pamphlet on Immigration into the United States, published at Boston in 1848, estimates the number of immigrants coming in by way of Canada and Nova Scotia, and at other places where no record was made, to have been 50 per cent. in excess of the number recorded.

remained in the Northern states, the foreign immigrants that settled in the Southern states were few. There were three chief reasons for this: lack of industrial opportunities for the immigrants, save in the larger cities and not to any great extent even in these; the competition of slave labor, and the presence of the blacks; and the land question, together with need for capital in agriculture. To the land-hungry Scotch or Irish or German peasant, the new world meant a bit of earth that he could call his own, and from whose produce he could win independence. He had little capital, and could not buy land in the older parts of the country where land was high and capital necessary for planting, but he sought the frontier where it could be had almost for the asking, and where small farming was predominant. The South was essentially an agricultural country, and what demand existed for agricultural or factory labor was met by the negro and the back country whites, and it was not increasing fast enough to make a place for more workers. The land question indeed affected not merely the immigrant, but also the Southern white man. Much of the soil that had been so fertile was, for lack of restoration processes, becoming unfit for plantation purposes, and the reports of better lands farther west induced many of the more energetic or more roving of the population to abandon their plantations and seek new fortunes on the frontier. This movement made the situation of the people left behind still worse, because many yielded to the temptation to buy up the lands abandoned by the western emigrants, often at the price of assuming heavy debts on lands that could not be profitably worked without the expenditure of much new capital, if at all. The only cheap land in the more settled districts was not worth buying. Moreover, the products of

the Southern states were not such as most of the immigrants were accustomed to. They did not understand the raising of cotton and tobacco, and the climate was entirely different from that to which they had been accustomed. There were projects in Virginia and the Carolinas for the culture of silk and vineyards, but they did not come to much.

There were three ports where large numbers of immigrants landed, Baltimore, Charleston, and New Orleans, with Savannah and Galveston as secondary, but for the causes above stated, immigrants did not remain long in the states where they landed, but pushed farther west. Around each city there remained a certain number, even when statistics show the number in the state at large to have been very small, showing the influence of the factor of industrial demand.

The ethnic composition of the foreign element comprised English, Scotch, Scotch-Irish, Germans, and French. The first three came chiefly from the northern ports and through Canada, into Kentucky and Tennessee by way of Pittsburgh and the Ohio and Shenandoah valleys, and settled all the adjacent country, and into western Virginia, North Carolina, South Carolina, and northern Georgia and Alabama. The German settlers, like the Scotch-Irish who came through Philadelphia, New Castle, and Charleston, began to come in before the Revolution, and formed an important part of the population, settling chiefly along the frontier counties, and showing a strong tendency to select the best of the farming lands suitable for raising the crops to which they were accustomed. There were large numbers of German settlers in the lower Valley of Virginia, in the counties of Jefferson, Berkeley, and Morgan, now part of West Virginia, and in other Valley counties

west of the Blue Ridge, chiefly Clarke, Frederick, Warren, Shenandoah, Page, and Rockingham. Minor settlements were in Augusta, Bath, Rockbridge, Botetourt, Montgomery, Wythe, and some other counties. To the east there were settlements of Germans in Madison, Fauquier, Rappahannock, Loudoun, Prince William, Albemarle, Greene, Louisa, and Orange. A few more were scattered in Isle of Wight and Henrico counties. There were numerous German settlements in the Alleghanies, many Germans coming from Pennsylvania along the river valleys, and occupying land on the frontier, or the South Branch of the Potomac and Patterson Creek in West Virginia, and the Yadkin and Catawba rivers in North Carolina. A few very early settlements were made along the seacoast, in company with some immigrants from Switzerland. In Georgia the settlements were rather of a commercial nature, as is shown by their location all along the great transportation routes from the up-country to the coast, from Savannah to Augusta, and around Macon and Milledgeville, centres for a large carrying trade into the eastern cotton belt.

Most of these German settlers were farmers, and seem to have possessed themselves of the best farming lands of the region. After the Revolution, Hessians, who had been brought to serve in the English army, settled in Maryland and Pennsylvania. In 1812, it is said, one-third of the population of Baltimore was German. Kentucky and Tennessee received about as many German settlers as Scotch-Irish. Efforts were made in the thirties and forties to individualize Missouri and Texas as German states, by various societies formed to aid the German refugees of the time.

Besides the French of the Louisiana territory, and the descendants of the Huguenots in the Carolinas,

there were some French settlers in Alabama and Mississippi. In 1817 Congress passed an act granting a large tract of land in Alabama for the purpose of establishing a settlement of French refugees, and there seems to have been a considerable emigration thither. There was a good deal of this sort of encouragement to immigration at the time, and some of these states empowered agents to offer special advantages to prospective immigrants. In 1816 a notice was printed in *Niles' Weekly Register,* published in Baltimore, that Colonel Nicholas Gray, after having consulted with the governor of the Mississippi Territory, was authorized to invite any number of industrious emigrants into that country where they would be provided with lands, *rent free, for three years, and with cattle and corn at the usual rates.*

The statistical study of the Southern states made in the census of 1850 gives an approximate idea of the numbers and distribution of the foreign-born population at the close of this period. The totals given refer only to the white population. According to this, Maryland had 51,011 persons of foreign birth, grouped in and around Baltimore, and in the northern and western counties. Maryland's total population was 487,943, of which 396,040 were born in the state, and 40,610 in the rest of the United States. Virginia, with a total population of 894,800, had 813,391 native citizens, 52,502 Americans born outside the state, and 22,953 foreign born. Four Virginia counties only showed more than a thousand residents of foreign birth, Henrico (Richmond), Norfolk, and Ohio and Preston, both in the present West Virginia. Twenty-nine counties, mostly in the central Valley of Virginia and the western part of the state, had over one hundred foreign-born persons.

North Carolina, with a population of 553,038, re-

cords 529,483 as being born within the state, 20,784 in the United States outside of the state, and 2,568 foreign born. Only four counties in the state had as many as one hundred foreign residents, Buncombe in the west, Cumberland and Moore in the south central part of the state, and New Hanover (Wilmington). South Carolina had a population of 274,563 whites, 253,399 of which were native South Carolinians, 12,691 American-born immigrants, and 8,508 foreign born. The majority of the latter, 5,984, were in the city of Charleston. Abbeville, Chester, Edgefield, Fairfield, and Greenville—all counties in the western portion of the state—had over one hundred foreign-born residents, as also did Richland, in which was the city of Columbia. Georgia showed the effect of the internal migration more than the preceding states, having 394,979 native sons and daughters, and 119,587 persons born in the rest of the United States. Of the 6,452 foreign born, one-third were in the city of Savannah, and a third more in Augusta and Vienna. There was also, comparatively speaking, a large foreign population around the city of Milledgeville.

Florida is the first state of this group to show a larger part of her population born outside of her borders than within, having 19,120 natives to 25,332 American immigrants, and 2,784 foreign, half of them in Key West. Alabama had 234,691 native-born citizens, 183,324 from the rest of the United States, and 7,438 from foreign countries. Five-sevenths of the latter were in the city of Mobile. Mississippi, like Florida, had more of her residents born outside than in the state, 154,946 of the former to 135,301 of the latter. There were 4,782 foreign born, settled chiefly on the southern and western borders. Kentucky's native population was 580,129, and the state had also 148,582 other Americans, and

about 30,000 foreign-born, one-half being in Louisville, and a large part of the remainder in and near Covington and the Ohio valley. Tennessee had 580,000 native citizens, 168,966 American, and 5,638 foreign immigrants, the latter chiefly in Nashville and Memphis.

Missouri had 265,304 natives, 249,223 Americans born in other states, and 76,570 foreign born. Of the latter, two-thirds were in St. Louis, and most of the remainder were in the great river valleys. Arkansas had 60,996 born in the states, 98,950 other Americans, and 8,468 foreigners. Louisiana had 126,917 persons born within her borders, 60,641 in other states, and 67,308 from other countries. Of the latter, 51,227 were living in the city of New Orleans, and almost 10,000 more in the districts immediately adjacent thereto. Texas had 43,281 native Texans, 92,657 other Americans, and 17,620 from other countries, mainly grouped around the cities of San Antonio, Houston, and Galveston, and in the Rio Grande Valley.

For purposes of comparing the immigration into the Southern states with that of the rest of the country, the following tables are inserted:

TABLE I.

NATIVE AND FOREIGN-BORN POPULATION ACCORDING TO THE CENSUS OF 1850.

(a) *Adjoining States Compared.*

State.	Native-born.	Other Americans.	Foreign.	Total pop. White.
Maryland	396,943	40,610	51,011	487,661
New Jersey	361,691	43,711	59,804	465,509
Virginia	813,391	52,502	22,953	894,850
Pennsylvania	1,787,310	165,966	303,105	2,258,160
Ohio	1,203,490	529,208	218,099	1,955,050
Kentucky	580,129	148,582	30,000	758,711
Indiana	520,583	398,695	55,537	977,154
Illinois	331,089	399,733	111,860	846,032

(b) *States of Similar Native-born Population.*

State.	Native-born.	Other Americans.	Foreign.	Total pop. White.
North Carolina	529,483	20,484	2,565	553,028
Maine	514,655	35,019	31,695	581,813
Virginia	813,391	52,502	22,953	894,850
Massachusetts	679,625	139,419	163,598	985,450
South Carolina	253,399	12,601	8,508	274,563
New Hampshire	255,132	44,925	14,257	317,456
Georgia	394,979	119,587	6,452	521,572
New Jersey	361,691	43,711	59,804	465,509
Alabama	234,691	183,324	7,498	426,517
Vermont	228,489	50,894	33,688	313,402
Tennessee	580,695	168,966	5,638	756,836
Indiana	520,583	398,695	55,537	977,154
Missouri	265,304	249,423	76,570	592,017
Connecticut	284,978	39,117	38,877	563,099

From the census volume of 1850, published in 1853, the following table showing accessions to the several states for each of the three years 1845, 1847, and 1852, is taken:

1845—Maine	4,050	Maryland	7,031
Massachusetts	10,360	Louisiana	15,537
New York	76,514		
Pennsylvania	5,767		
1847—Maine	5,806	Maryland	12,018
Massachusetts	20,848	Louisiana	24,803
New York	145,830	Texas	3,873
Pennsylvania	14,777		
1852—Maine	2,745	Maryland	14,148
Massachusetts	21,437	Louisiana	32,316
New York	304,879	Texas	2,600
Pennsylvania	17,959	South Carolina	1,517

Chickering's pamphlet on *Immigration* shows that in the years 1820 to 1846, 1,085,477 persons of foreign birth were recorded as arriving at the ports of the "free states," and 268,828 at the ports of the "slave states." The principal ports were New York, where 880,343 of these immigrants landed, or 65 per cent. of the total; New Orleans, 144,938, or 10.7 per cent.; Baltimore, 105,799, or 7.81 per cent.; Boston, 75,204, or 5.55 per cent.; Philadelphia, 71,627, or 5.28 per cent.

These figures, he considers, represent about two-thirds the total number that came. If the Southern states had received and kept as residents this estimated amount, the figure for foreign-born in 1850 should have approximated 403,000, instead of 304,-873.

The decade 1850 to 1860 was one in which a large number of persons of foreign birth came to the United States. The Germans after the revolution of 1848 emigrated in large numbers, and, often aided by their fellow country-men, took up land in the new west. The Irish came in during this period in throngs, with other persons from the British Isles. It was also the time of a large French-Canadian immigration, many leaving their worn lands and overcrowded homes to seek work in the textile mills of the border states. All told, there were 2,707,624 persons of foreign birth that entered the United States in the years from 1850 to 1860, as recorded by the steamship companies and others. To this should probably be added a half more, for the number coming from other countries by way of Canada, or from Canada itself. The total white population of the United States in 1860 was 27,489,461, as against 19,-987,571 in 1850. Of the former number, 4,136,175 were of foreign birth.

TABLE II. A.

Showing Location of Foreign Residents in 1860.

State.	Total foreign born, 1860.	Per cent. foreign.	Increase since 1850.	England.	Ireland.	Scotland.	British America.	German States.
Alabama	12,352	1.28	4,714	1,174	5,664	696	239	2,601
Arkansas	3,741	0.86	2,113	375	1,312	131	154	1,143
Florida	3,309	2.36	552	320	827	189	77	478
Georgia	11,671	1.10	5,664	1,122	6,586	431	178	2,472
Kentucky	59,799	5.17	30,610	4,503	22,240	1,111	618	27,227
Louisiana	81,029	11.44	14,616	3,989	28,207	1,057	830	24,614
Maryland	77,536	11.24	24,248	4,235	24,872	1,583	333	43,804
Mississippi	8,558	1.08	3,600	844	3,893	385	184	2,008
Missouri	160,541	13.59	88,067	10,009	43,464	2,021	2,814	88,487
North Carolina	3,299	0.33	757	729	889	637	48	765
South Carolina	9,986	1.42	1,324	757	4,906	502	86	2,947
Tennessee	21,226	1.91	15,486	2,001	12,498	577	387	3,869
Texas	43,422	7.19	26,648	1,695	3,480	524	458	20,553
Virginia	35,058	2.19	12,664	4,104	16,501	1,386	389	10,512

TABLE II. B.

SHOWING LOCATION OF FOREIGN RESIDENTS IN 1860.

State.	Total foreign born, 1860.	Per cent. foreign.	Increase since 1850.	England.	Ireland.	Scotland.	British America.	German States.
California	46,528	44.98	124,170	12,227	33,147	3,670	5,147	21,646
Connecticut	80,696	17.54	43,223	8,875	55,445	2,546	3,145	8,525
Illinois	324,643	18.97	214,850	41,745	87,573	10,540	20,132	130,804
Indiana	118,184	8.75	63,758	9,304	24,495	2,093	3,166	66,705
Iowa	105,081	15.71	84,849	11,522	28,072	2,895	8,313	38,555
Kansas	12,691	11.84	12,691	1,400	8,888	377	936	4,319
Maine	37,463	5.96	5,597	2,677	15,290	759	17,540	384
Massachusetts	260,114	21.13	99,205	23,818	185,434	6,855	27,069	9,961
Michigan	143,092	19.91	94,240	25,743	30,049	5,705	36,482	38,787
Minnesota	58,728	33.78	56,180	3,462	12,831	1,079	8,020	18,409
New Hampshire	20,938	6.42	7,367	2,291	12,737	741	4,468	412
New Jersey	122,796	18.27	64,426	15,582	62,006	3,556	1,144	83,772
New York	998,640	25.73	346,839	106,011	498,072	27,641	55,273	256,252
Ohio	328,254	14.03	109,742	32,700	76,826	6,535	7,182	163,210
Pennsylvania	430,505	14.81	135,634	46,546	201,939	10,137	3,484	138,244
Wisconsin	276,927	35.69	170,232	30,543	49,961	6,902	18,146	123,879

TABLE III.

STATISTICS OF INTERNAL MIGRATIONS OF NATIVE-BORN AMERICANS IN 1860.

(a) State.	Born and residing in.	Emigrants to other States.	Immigrants from other States.
Alabama	320,026	137,740	196,889
Arkansas	124,043	24,330	195,884
Florida	35,602	6,770	38,549
Georgia	475,496	190,223	107,604
Kentucky	721,570	331,904	148,232
Louisiana	214,294	26,974	73,722
Maryland	481,061	137,258	40,694
Mississippi	195,806	69,041	145,239
Missouri	425,246	89,043	428,232
North Carolina	634,220	272,606	23,845
South Carolina	276,868	193,389	14,366
Tennessee	660,580	344,765	151,408
Texas	153,043	7,356	224,345
Virginia	1,001,710	399,700	68,341

As seen by the tables, the increase in the percentage of foreign born, as well as in absolute numbers, appears to be largest in the Northern states. The South has only five states showing more than 5 per cent. of persons of foreign birth. Of these, Louisiana, Missouri, Texas, and Kentucky were states at or near the frontier, and three contained large cities, New Orleans, St. Louis, Louisville, where the foreign

population largely centred. The fifth state, Maryland, is affected by the composition of Baltimore. Mississippi, Tennessee, and Arkansas may be fairly compared as to conditions with Louisiana, Kentucky, and Missouri, yet their percentages of foreign born are 1.08, 1.91, and 0.86, against 11.44, 5.7, and 13.59, showing that the city factor was stronger than the frontier. The Northern state having the lowest percentage is Maine, 5.96—a percentage higher than all but four of the Southern states, though the absolute numbers are smaller. A comparison on the same basis as in table I (a) of adjoining states, or states of somewhat similar conditions, would show the following:

	Native-born.	Other Americans.	Foreign.	Per cent. foreign.
Maryland	481,061	40,694	77,536	11.28
New Jersey	469,015	143,019	122,796	18.27
Virginia	1,001,710	68,341	35,058	2.19
Pennsylvania	2,279,904	195,022	430,505	14.81
Ohio	1,529,560	476,966	328,254	14.03
Kentucky	721,570	148,232	59,199	5.17
Indiana	774,721	455,719	118,184	8.75
Illinois	706,925	767,250	324,643	18.97
North Carolina	634,220	123,846	3,299	0.333
Massachusetts	805,546	163,637	260,144	21.13
South Carolina	276,868	14,366	9,986	1.42
New Hampshire	256,982	48,032	20,938	6.42
Georgia	475,496	107,604	11,671	1.1
Connecticut	373,722	55,073	80,696	17.54

By this comparison of states having approximately the same native population, the relative importance of the foreign immigration is easily seen. The population of the South was not largely affected by immigration from other countries, and in the older states, not affected by frontier conditions, there was comparatively little immigration from other states, a condition not so universally true of the Northern seaboard states. The older Southern states were the sources of a large migration to the frontier, as can

be seen in Table III above. The population of the South was thus more homogeneous than that of the North, and so far as the disturbing effects upon customs, habits, and economic life of the people is concerned, was more stable, because less touched by the incoming stream of more or less alien peoples that so profoundly affected the life of the North.

BIBLIOGRAPHY.—Commons, J. R.: *Races and Immigrants in America* (New York, 1908); Chickering, Jesse: *Immigration into the United States* (Pamphlet, Boston, 1843); Faust, A. B.: *The German Element in the United States* (2 vols., Boston, 1909); Fiske, John: *Old Virginia and Her Neighbors* (2 vols., New York, 1897); Hall, P. F.: *Immigration* (New York, 1906); Hanna, C. A.: *The Scotch-Irish, or the Scotch in North Britain, North Ireland, and North America* (2 vols., New York, 1902); Niles, Hezekiah: *Niles' Weekly Register* (50 vols., Baltimore, 1811-1836); Niles, W. O. (ed.): *Ibid.*, (Sept., 1836-Sept., 1837, Baltimore); Niles, W. O., and Hughes, I (editors): *Niles' National Register* (21 vols., Sept., 1837-1849, Baltimore); Phillips, U. B.: *History of Transportation in the Eastern Cotton Belt to 1860* (New York, 1908); Roosevelt, T.: *Winning of the West* (4 vols., New York, 1889-94); Smith, R. Mayo: *Emigration and Immigration* (New York, 1890); Turner, F. J.: *Rise of the New West* (American Nation Series, New York, 1906); Watson, Elkanah: *Men and Times of the Revolution* (edited by his son Winslow C. Watson, New York, 1861); Census Reports: *Statistical View of the Population, 1790-1830* (Washington, 1835); Census of the United States, 1850 to 1860 contains figures for 1852 (Washington, 1853); Census of the United States (Volume on *Population*, Washington, 1864).

CAROLINE E. MACGILL,
Instructor in Economics, University of Wisconsin.

POPULATION OF THE SOUTH TO 1865.

THE population of the South in 1790, by the returns of the first census taken under the constitution, was 1,902,078, and ten years later, at the close of the Eighteenth century, it was 2,543,535. As the total population of the country was given as 3,929,214 and 5,308,483, respectively, the South then contained not quite one-half of all the inhabitants of the United States. According to earlier colonial estimates, although they can hardly be accounted re-

liable, the South was said to have a population in 1700 of about 77,000, then comprised in Maryland, Virginia and the Carolinas, out of an estimated population for the country of 262,000. In 1754 these same colonies and Georgia were credited with a population of 609,000, and again in 1775 with a population of 1,275,000, out of a whole total of 1,428,000 and 2,750,000, respectively.

The population of the South in 1790 was made up of 1,225,080 whites and 676,998 slaves and free colored persons, or very nearly two-fifths of all the whites and very nearly nine-tenths of all the negroes in the country at that time. But as the total area of the country was increased by successive accessions of territory and the area of settlement in the North and West became widened the proportion of whites in the South steadily declined until in 1860 it represented less than three-tenths of all the whites. The proportion of negroes in the South, on the other hand, showed a constant increase, representing a relative gain during the seventy years of very nearly 5 per cent. as against a relative loss for whites of very nearly 10 per cent.; and, as a net result, the proportion of the total population in the South was reduced in 1860 to less than two-fifths. The statistics for each census follow:

Year.	White and Negro Population of South.				Per Cent. of Whole Number in United States.		
	Total.	White.	Negro.	Per Cent. Negro of Total.	Total.	White.	Negro.
1790	1,902,078	1,225,080	676,998	35.6	48.4	38.6	89.4
1800	2,543,535	1,643,647	899,888	35.4	47.9	38.2	89.8
1810	3,334,185	2,137,325	1,246,860	36.8	46.7	36.5	90.5
1820	4,380,030	2,754,681	1,625,349	37.1	45.4	35.0	91.7
1830	5,731,721	3,575,594	2,156,127	37.6	44.5	33.9	92.6
1840	7,212,634	4,543,422	2,669,212	37.0	42.3	32.0	92.9
1850	9,521,437	6,113,308	3,408,129	35.8	41.0	31.3	93.7
1860*	12,125,781	7,946,110	4,179,671	34.5	38.6	29.5	94.1

*In 1860, for the first time in the Federal census, the enumeration included Chinese and Indians, but as only a small number (2,296) of the latter was credited to the South, these classes are not here considered.

The growth of the white population of the South during this period was due to natural increase almost wholly and was somewhat slower than that for the remainder of the country, to which both natural increase and immigration contributed. Only a very small proportion of the immigrant element of the population found its way to the South, chiefly because of its large slave population, and as the volume of immigration increased the proportion of negroes outside of the South also decreased.

There is no record of foreign immigration prior to 1820, but from that year to 1850 very nearly 2,500,000 immigrants came to this country and during the following decade somewhat more than that number, making a total for the entire period of 5,054,029, of which very nearly seven-tenths came from Ireland and Germany. Until 1850 the census made no distinction between persons of native and foreign birth, so that the proportion of foreign born in the South can only be given for the last two censuses of this period. The foreign born (almost wholly whites) numbered for the entire country 2,244,602 in 1850 and 4,138,697 in 1860, but less than one-seventh (13.7 per cent.) of those in 1850 and a little more than one-eighth (12.8 per cent.) of those in 1860—or 308,086 and 531,324, respectively—were credited to the South. At the former census, therefore, only 3.2 per cent., and at the latter only 4.4 per cent., of the total population of the South were of foreign birth, as compared with 14.2 and 18.7 per cent., respectively, for the remainder of the country.

The negroes have constituted somewhat more than a third of the total population of the South at each census, the maximum point, 37.6 per cent., being reached in 1830, with a slight decline at each census thereafter to 1860 when it was 34.5 per cent.

They have at all times been very largely concentrated in that section, and of the entire number in the country in 1790 there were outside of the South only about 80,000, 31,008 free colored and 49,257 slaves. But the number of negroes outside of the Southern States was successively increased, although the proportion decreased, until in 1860 there were 262,159, of which, because of restrictive state legislation, only 5,047 were slaves, and these were in Delaware and the District of Columbia almost wholly.

For each decade from 1790 to 1860 the total population of the country showed an increase of about one-third; this was also true of the South for the first two decades, but thereafter the percentages were lower and showed considerable fluctuation; and for all decades the proportional increase for the South was less than that for the remainder of the country. The white population, for the country as a whole, has increased at a somewhat more rapid rate than the negro population except for one decade—1800 to 1810—when the rate for negroes was slightly higher because of the heavy importation of slaves in 1808. The rate of increase in the white population of the South, as compared with the remainder of the country, has been uniformly lower. Although, as compared with the negro population of the South, the rate of increase of whites was higher for the first decade, 1790 to 1800, it was lower for each of the following three decades,—during which the proportion of negro to total population in the South reached its maximum point,—and higher for each decade thereafter to 1860. The percentages follow:

Period.	Per Cent. of Increase in—							
	Total Population.			White Population.			Negro Population.	
	The U. S.	The South.	Rem. of Country.	The U. S.	The South.	Rem. of Country.	The U. S.	The South.
1790–1800	35.1	33.7	36.4	35.8	34.2	36.8	32.3	32.9
1800–1810	36.4	33.1	39.4	36.1	30.0	39.9	37.5	38.6
1810–1820	33.1	29.4	36.4	34.2	28.9	37.2	28.6	30.4
1820–1830	33.5	30.9	35.7	34.0	29.8	36.2	31.4	32.7
1830–1840	32.7	25.8	38.2	34.7	27.1	38.6	23.4	23.8
1840–1850	35.9	32.0	38.7	37.7	34.6	39.2	26.6	27.7
1850–1860	35.6	27.4	40.7	37.7	30.0	41.2	22.1	22.6

At the period of the First Census, in 1790, the states along the southern Atlantic seaboard—from Maryland to Georgia—contained a population of 1,792,710, while for the present states of Kentucky and Tennessee, then known as the "territory south of the river Ohio," a population of only 109,368 was reported. Georgia then extended to the Mississippi River, and the territory now comprising Florida, together with a strip along the southern border of Georgia and all the region west of the Mississippi River, was claimed by Spain. The total area of the United States then comprised 843,799 square miles, of which about one-third was contained in that portion of the South then acquired and opened to settlement. Seventy years later, in 1860, of the total population of the South the Atlantic States, which now included Florida, contained 5,176,010, or 42.7 per cent.; the Gulf states—Alabama, Mississippi, Louisiana and Texas, 3,066,985, or 25.3 per cent.; and the Interior states—Arkansas, Missouri, Kentucky and Tennessee, 3,882,786, or 32 per cent., somewhat more than three-fifths being credited to Kentucky and Tennessee. The South as now constituted contained 970,120 square miles, or about one-third of the present area of the country, which since 1790 had grown through successive accessions of territory to

3,025,600 square miles. The general growth of population, and the proportion of negroes, in the Atlantic, Gulf, and Interior states of the South are summarized as follows:

Year.	Atlantic States.			Gulf States.			Interior States.		
	Total.	Negro.		Total.	Negro.		Total.	Negro.	
		Number.	Per Cent. of Total.		Number.	Per Cent. of Total.		Number.	Per Cent. of Total.
1790	1,792,710	660,676	38.0	.....	.....	....	109,368	16,322	14.9
1820	2,955,275	1,245,507	42.1	356,756	155,262	43.5	1,067,093	224,580	21.0
1840	3,803,502	1,564,738	41.1	1,318,818	646,102	49.0	2,090,314	458,372	21.9
1860	5,176,010	2,022,255	39.1	3,066,985	1,408,468	45.9	3,882,786	748,948	19.3

The growth of population in the South has come from natural increase almost wholly, as already stated, but between the several states there has been a very considerable movement of the native free population, amounting in 1860, as a net result, to the giving by the older states—all the Atlantic states except Florida, and Kentucky and Tennessee—of more than 800,000 of their "state" born citizens to the other Southern states and, in addition, another half million to the remainder of the country, as follows:

Section.	Given to:		Received from:		Net Gain (+) or Loss (−).	
	The South.	Rem. of Country.	The South.	Rem. of Country.	The South.	Rem. of Country.
The South.	1,504,081	727,012	1,504,081	374,182	—	−352,830
Atlantic*(exc. Fla.)..	804,178	388,998	172,995	83,367	−631,184	−305,631
" (Fla.).....	5,919	851	36,484	3,284	+30,565	+2,433
Gulf†.....	221,242	19,869	591,440	61,750	+370,198	+41,881
Interior (Ky., Tenn.)	425,567	251,023	245,200	55,899	−180,367	−195,194
" (Ark., Mo.)..	47,175	66,201	457,963	169,882	+410,788	+103,681

This interchange of the natives of the South has been very general, to both contiguous and non-con-

* Md., Va., N. C., S. C., and Ga.
† Ala., Miss., La., and Texas

tiguous territory, but of the total net contribution (811,551) more than four-fifths has been given by four states—North Carolina, South Carolina, Virginia, and Tennessee—and, on the other hand, fully three-fourths has been received by three states—Missouri, Texas, and Arkansas.

In 1865, at the end of this period, the population of the South had not been materially increased from that shown by the census of 1860 on account of losses and conditions arising from the war; the population was almost wholly agricultural and manufacturing was of relatively small importance. The statistics of occupations are meagre, but from returns made in 1820 and again in 1840, showing the number of persons (including slaves) engaged in three great classes of occupation it appears for the South that approximately 90 per cent. were engaged in agriculture, 8 per cent. in manufactures, and 2 per cent. in commerce, as compared with 72, 25, and 3 per cent., respectively, in 1840 for the remainder of the country. Data* of a similar character are not available for later years, but it is undoubtedly true that in 1865, at the close of this period, the population was identified with agriculture in very much the same proportion as in 1820 and 1840 and that but little advance had been made in manufactures.

Bibliography.—Wright, Carroll D. and Hunt, William C.: *The History and Growth of the United States Census* (Washington, 1900); *Reports of the United States Census* (1860, 1870, 1880, 1890, and 1900); *Special Report—Occupations*—Twelfth Census.

William C. Hunt,

Chief Statistician for Population, Census Bureau, Washington.

*Inquiry as to occupation was made in 1850 and 1860, but limited to free males and free persons, respectively.

THE ECONOMIC ASPECTS OF THE RURAL AND URBAN MOVEMENTS OF POPULATION IN THE SOUTH.

To 1803.—Until the close of the War of Secession the Southerners were an agricultural people who lived either on large plantations cultivated by black slaves, notably along the seaboard and in the rich alluvial regions of the Southwest, or on small farms, especially in the interior, which the owners of such holdings had themselves reclaimed from the wilderness and which for the most part they cultivated with their own hands or with hired labor. It is impossible, therefore, at any time during this long period to draw a hard and fast line of distinction between the country people and the townspeople. The population was as overwhelmingly and distinctly agricultural in 1860 as it had been in the palmiest days preceding the Revolution. Few in number and small of size, the towns were scattered at great intervals along the coast or on the more important inland streams. Even such communities, however, were often composed of a number of persons directly interested in the cultivation of the soil.

In colonial days the leading crop in Virginia and Maryland was tobacco, which was subsequently cultivated in North Carolina, Tennessee, Kentucky, and Missouri; and in Carolina and Georgia rice and indigo (now long since displaced) were important articles of commerce. The two other great Southern staples, cotton and sugar, did not become prominent until after the Revolution.

To European colonists of the Seventeenth and Eighteenth centuries, whether inspired by the lust

of gain, or by political conditions at home, or who hoped to find in America a religious freedom denied them abroad, the South offered exceptionally favorable opportunities to produce a few great staples in constant demand throughout the commercial world. Land, moreover, was cheap and abundant, and the mother-country favorably disposed towards the colonies, while the climate for the most part was mild and healthful.

Under prevailing theories it appears to have been assumed that the great colonial staples required for their successful cultivation extensive areas of land, and this operated directly against the development of towns, for which laws had frequently been passed, and for the development of slave labor to supplant that of white indentured servants of various classes who, after the expiration of their terms of service, often joined the ranks of the landholding classes or remained as hired artisans or farm laborers.

As regards the small farms of the interior, their products, until the invention of the cotton gin, comprised in the main corn, grain, and livestock, but after Whitney's achievement, cotton was introduced together with slavery and the plantation system. What the planter and farmer did not produce at home was purchased at the nearest market to which point it had been imported from Europe or was bought in the North.

Under these simple conditions the population grew from the 210 inhabitants of Virginia in 1610 to 1,903,332 for the five Southern states in 1790, most of whom were agricultural or rural dwellers. Of a total population of 697,624 slaves, 648,651 were owned in Maryland and the District of Columbia, Virginia, North Carolina, South Carolina, Georgia, Kentucky, and Tennessee.

Charleston, the largest Southern city in 1790 had a population of 16,359. In 1770 its population was 10,863, of which 5,030 were whites and 5,833 colored (domestic servants and mechanics). In the same year Charleston contained 1,292 houses. Three years later Charleston was reported to contain 1,500 houses and a population of 12,000, more than one-half of which was colored, and in 1787, in spite of the misfortunes of war, the city had a population of 15,000, of whom 9,600 were whites and 5,400 colored.

Baltimore, the second largest city in the South in 1790, contained 13,503 inhabitants, as contrasted with a population of 200 in 1752. Its population in 1775 was 5,934 and it contained 564 houses. Baltimore gained much of the trade of Philadelphia during the Revolutionary War. There were no other towns in the South in 1790 with a population exceeding 4,000. Out of seventy-five post offices in the United States, however, thirty-four were in the South. Maryland and Virginia had twelve and fifteen respectively, North Carolina four, South Carolina two, and Georgia one, namely, Savannah.

There were almost five hundred settlements or villages in the South, many of which have since become prosperous cities, whose population was not reported.

1803-1817.—Contemporaneous with the public discussions leading up to the revolt of the colonies the sentiment of the people throughout the country underwent a great alteration, which, after the successful termination of the war, found expression in many of the state constitutions. Among these were the abolition of the law of primogeniture, the disestablishment of churches, the removal of religious tests in the matter of holding office, and the adoption of more

liberal measures with respect to the exercise of the right to vote. As a result of this movement and partly for economic reasons, slavery showed a tendency to disappear from parts of the South as from the North, but events, like the application of steam to English spinning and weaving machinery and Whitney's cotton gin, arrested the movement at the South and by fastening slavery more securely upon the South tended to keep it a distinctively agricultural community.

This tendency was enhanced by the Louisiana Purchase in 1803, which increased the price both of slaves and lands and offered to those whose plantations on the seaboard had been impoverished by wasteful methods of cultivation new fields of enterprise in the Southwest. Later on, the tobacco planters of Virginia, who suffered grave hardships in 1807 from Jefferson's embargo policy, could turn with hope to the newly acquired territory. The tariff of 1816 burdened the South, and was not without its effect also on the growth of its towns, notably the seaports.

With this agricultural expansion, rural population grew at the expense of urban. By 1820 slaves had increased in number to 1,538,022, of which 1,319,208 were in the South. In Maryland since the census of 1810 there had been a decrease of 2.7 per cent. in the slave population; but Virginia showed a percentage slave increase of 8.3; North Carolina of 21.4; South Carolina of 31.6; Georgia of 42.2; Kentucky of 57.3; Tennessee of 79.9; Alabama of 1,532.7; Mississippi of 125.9; Louisiana of 99.3; Arkansas of 1,089.0 and Missouri of 255.5. The population of the entire country in 1820 was 9,638,453, that of the South being 3,861,204 or more than one-third of the total as compared with nearly one-half the whole population in 1790, but

the larger Southern cities, except Charleston and Savannah, showed a notable increase in population.*

1820-1865.—The four decades between 1820 and the outbreak of the war were characterized by an extraordinary industrial development in the United States. This period witnessed first of all the efforts made by various states to improve their systems of transportation, resulting in the construction of canals and later on of railroads. Of scarcely less importance were the experiments made in banking, and the development, at the North, especially of the factory system, which taking its rise during the second war with Great Britain assumed augmenting prosperity by reason of the tariff acts of 1828 and 1832, against which the agricultural South earnestly protested.

It was during this period that immigrants from Europe began to pour into American ports in numbers never before approached. Foreigners, however, were not attracted to the South. Of the 8,385 immigrants who arrived in this country in 1820, Baltimore received 1,262, New Orleans 911, Charleston 385, and Norfolk 164. How far the Southern population was distinctively native-born may be judged from the fact that in 1860 the foreign-born population at the South was 541,936 and that at the North 3,594,239. In other words, the foreign-born population represented in that year 6 per cent. of the

*POPULATION OF SOUTHERN CITIES, 1820.

	1800	1810	1820
Baltimore, Md.	26,114	35,583	62,738
Washington, D. C.	3,210	8,208	13,247
Richmond, Va.	5,737	9,735	12,067
Charleston, S. C.	20,473	24,711	24,780
Savannah, Ga.	5,166	5,215	7,523
Mobile, Ala.	....	....	1,500
Louisville, Ky.	359	1,357	4,012
New Orleans, La.	17,242	27,176	46,310
St. Louis, Mo.	1,600	4,598	5,852

whole population of the South and about 20 per cent. of that in the North.*

Business corporations, particularly banks, at the South were confined to the larger towns, and a number of these banks were selected as depositories when the government deposits were removed from the United States Bank in 1833-34. Many banks which subserved agricultural interests suffered heavy losses in 1836-39, either through speculative ventures, mismanagement, or the financial depression of the day. Notwithstanding the ascendency of agriculture, various attempts at manufacturing were located both in town and country. The plantation itself was frequently an industrial as well as an agricultural centre, where shoes, clothing, and other goods were manufactured by artisans and mechanics drawn from the Negro population. In some of the towns white laborers were engaged in these and similar vocations. Even on the farms household production of cloth, stockings, and like commodities was not rare, while nearly every community near a stream endowed with sufficient waterpower had its corn or gristmill. There were also saw mills, brick yards, rope-walks, woolen mills, tan yards, paper mills, tobacco factories, gin houses, foundries, blacksmith-shops, turpentine and whiskey distilleries, and cotton mills. The importance of a town was largely measured, however, not so much by its influence as an industrial centre as by the number of its stores or the extent of its trade.

One of the most encouraging phases of manufacturing industries was that of cotton goods. During the twenty years from 1800 to 1820 there were incorporated in the South as many as forty-two cotton mills. By 1850 there were 168 cotton mills in the Southern states, operating 254,810 spindles and con-

*Ingle, *Southern Side Lights*, 11.

suming 80,300 bales of cotton. Ten years later, the mills numbered two less, but showed an increase of 58,741 spindles and consumed 21,388 more bales of cotton than in 1850. These mills tended to be located in cities and towns or to form nuclei of urban development, thereby centering and increasing this element of population. Though in the 12,315,374 population of the South in 1860, 3,953,696 represented slaves and 261,918 free persons of color, the growth of urban population in the two preceding decades is conspicuous as shown in the following table:

Population of Southern Cities—1860. (From 8th Census).

	1830	1840	1850	1860
Baltimore, Md	80,625	102,313	169,054	212,418
Washington, D. C	18,827	23,364	40,001	61,122
Charleston, S. C	30,289	29,261	42,985	40,578
Richmond, Va	16,060	20,153	27,570	37,910
Savannah, Ga	7,776	11,214	15,312	22,292
Mobile, Ala	3,194	12,672	20,515	29,258
Nashville, Tenn	5,566	6,929	10,478	16,988
Louisville, Ky	10,341	21,310	43,194	68,033
New Orleans, La	46,310	102,193	116,375	168,675
St. Louis, Mo	5,852	16,469	77,860	160,773
Georgetown, D. C	.....	7,312	8,366	8,733
Alexandria, Va	.....	.....	8,734	12,652
Augusta, Ga	.....	.....	11,753	12,493
Memphis, Tenn	.....	.....	8,839	22,623
Montgomery, Ala	.....	.....	4,935	35,902
Portsmouth, Va	.....	.....	8,122	9,502
Natchez, Miss	.....	.....	4,434	6,612
Wheeling, W. Va	.....	.....	11,435	14,083
Wilmington, N. C	.....	.....	7,264	9,552
Fayettevile, N. C	.....	.....	4,646	4,790
Columbia, S. C	.....	.....	6,060	8,059
Annapolis, Md	.....	.....	3,011	4,529
Columbus, Ga	.....	.....	5,942	9,621
Galveston, Tex	.....	.....	4,177	7,307
Lynchburg, Va	.....	.....	8,071	6,853
Petersburg, Va	.....	.....	14,010	18,266
Raleigh, N. C	.....	.....	4,518	4,780
Little Rock, Ark	.....	.....	3,000	4,138

BIBLIOGRAPHY.—Ballagh, James C.: *White Servitude in the Colony of Virginia* (*Johns Hopkins Univ. Studies*, XIII, vi-vii, Baltimore, 1895); Bassett, John S.: *History of Slavery in North Carolina* (*Johns Hopkins Univ. Studies*, XVII, vii-viii, Baltimore, 1899); Bruce, Philip A.: *Rise of the New South* (Philadelphia, 1905); Brackett,

Richardson, B.: *The Negro in Maryland* (Johns Hopkins Univ. Studies, Extra Vol. VI, Baltimore, 1899); Bryan, A. C.: *History of State Banking in Maryland* (*Johns Hopkins Univ. Studies*, XVII, i-iii, Baltimore, 1899); Gannett, Henry: *Building of a Nation, Growth, Present Condition and Resources of the United States* (New York, 1895); Howe, William W.: *The City Government of New Orleans* (*Johns Hopkins Univ. Studies*, VII, iv, Baltimore, 1899); Ingle, Edward: *Southern Side Lights* (New York, 1896); Kingsbury, Susan M.: "A Comparison of the Virginia Company with the other English Trading Companies of the 16th and 17th centuries" (in American Historical Association *Annual Report*, 1906, Vol. I, Washington, 1908); Roosevelt, Theodore: *The Winning of the West* (Vols. I-IV, New York, 1889-1896); Steiner, Bernard C.: "The First Lord Baltimore and His Colonial Projects" (in American Historical Association *Annual Report*, 1905, Washington, 1906); Wilhelm, L.: *Local Institutions of Maryland* (*Johns Hopkins Univ. Studies*, III, V, VI, VII, Baltimore, 1885); Tenth Census of the United States, *Social Statistics of Cities* (Washington, 1887); Seventh Census of the United States 1850 (Washington, 1853); Census for 1820 (Washington, 1821); *Year Book* of the United States Department of Agriculture (Washington, 1904); *A Century of Population Growth* (Bureau of the Census, Washington, 1909).

Burr J. Ramage,
Bureau of Corporations, Washington, D. C.

SOUTHERN EMIGRATION TO THE NORTH AND WEST.

The expansion of the South has been of necessity a westward movement. But despite the prohibition of slavery in the region north of the Ohio (by the ordinance of 1787) that river was not the northern boundary of Southern settlement. If the Mason and Dixon line were extended westward, it would cut off the southern third of the territory comprised in the states of Ohio, Indiana, and Illinois. Within the greater part of this region men from the South were for a long time dominant.

The Virginia Military Reservation, comprising the fertile area between the Scioto and Little Miami rivers in southern Ohio was settled by colonists from

Virginia in the years following 1790. Emigrants from Virginia, Maryland, and Kentucky were among the early settlers of other parts of southern Ohio. The settlement of southern Indiana and Illinois was a continuation of the settlement of Kentucky and Tennessee. Pioneer hunters from the older region were succeeded, after the cessation of Indian difficulties in 1816, by a class of migratory small farmers, and these in turn, by more permanent settlers. The migration from Kentucky and Tennessee to Indiana and Illinois was reinforced by an influx of settlers from Virginia and the Carolinas. Aside from the influence of the spirit of adventure and the lure of the new and cheap lands, there was complaint of the exhaustion of the soil under the continued cultivation of tobacco and cotton in the seaboard states. Moreover, the introduction of cotton culture into the uplands had operated to drive out the small farmer and the free laborer. A few slave-holders were among the settlers, and these were for a while protected by laws permitting "indentured servants."

After the completion of the Erie canal in 1825, that waterway displaced the Ohio River as the chief route to the West. The northern portions of Ohio, Indiana, and Illinois were speedily occupied by emigrants from the North Atlantic states; the Ohio and the Wabash and Erie canals, and, later, the railroads, turned the traffic of the Ohio valley away from the Mississippi and the South to the Great Lakes and the East; and the Southern settlers formed new ties of commercial allegiance in the North. A similar development took place in the lead region of Iowa, Illinois, and Wisconsin, to which in the early days the easy route of the Mississippi had brought many settlers from the South. The Federal census does not show the nativities of the population until 1850. At that late date persons born

in the South (not including persons who were merely of Southern parentage) made up 20 per cent. of the immigrant population in Ohio, 54 per cent. in Indiana, and 33 per cent. in Illinois (excluding natives of these three states from the computation).

But the greater part of those who migrated from the older states of the South before 1865 sought regions where conditions of soil, climate, and topography were familiar, and where the cultivation of Southern staples and the development of the plantation system were possible. Pioneer hunters and small farmers from Virginia, North Carolina, and Tennessee were settling in Western Georgia, in Alabama and Mississippi and were pushing across the river into the territory of the Louisiana Purchase and on into Texas at about the same time that like men of like origin were peopling Southern Indiana and Illinois. But there was in the Southwest another class of migrants—the large planters from different parts of the older South, who occupied the fertile regions adapted to the growing of sugar or cotton. The following table shows the distribution of persons of Southern birth in the Southern states west of the Mississippi in 1850:

State of Birth.	State of Residence.			
	Missouri.	Arkansas.	Louisiana.	Texas.
United States.....	520,800	160,300	205,900	137,100
Maryland	4,300	300	1,400	500
Virginia	40,800	4,700	3,200	3,600
North Carolina....	17,000	8,800	2,900	5,200
South Carolina....	2,900	4,600	4,600	4,500
Kentucky	69,700	7,400	3,000	5,500
Tennessee	45,000	33,800	3,400	17,700
Georgia	1,300	6,400	5,900	7,600
Florida	100	——	400	400
Alabama	2,100	11,250	7,300	12,000
Mississippi	600	4,500	10,900	6,500
Missouri	277,600	5,300	900	5,100
Arkansas	2,100	63,200	800	4,700
Louisiana	700	1,100	145,500	4,500
Texas	200	300	900	49,200

Migration to Kansas, from both the North and the South, began in 1854. In 1860 the Southern settlers constituted about a third of the 83,000 native immigrants in the state. Of these, 41 per cent. had come from Missouri, 4 per cent. from Kentucky, 13 per cent. from Virginia, and 9 per cent. from Tennessee. The native immigrant population of Nebraska at the same date numbered 19,000, and 17 per cent. of these were born in the South. Settlers from Virginia, Kentucky, and Tennessee were also prominent in the early settlement of Iowa. Of the 17,000 native immigrants in that state in 1850, 18 per cent. were born in the South.

The Pacific Coast, with its mild climate and its varied economic opportunities, was an attractive goal for migrants from the South. Independence, Missouri, was the centre from which large bands of emigrants started for Oregon in 1843 and the years immediately following. The census of 1850 showed that of the 8,800 native immigrants in Oregon, 4,000 had come from the South. In 1860, of the 30,500 native immigrants then in the state, 40 per cent. were of Southern birth. Nearly half of these were from Missouri, 30 per cent. were from Kentucky and Tennessee, while 10 per cent. were from Virginia. Of even greater importance was the Southern emigration to California after the discovery of gold in 1848. Over 30 per cent. of the 63,000 native immigrants in that state in 1860 were born in the South. Natives of Missouri, Tennessee, Kentucky, and Virginia were, as in Oregon, the most numerous.

The most important single economic cause of migration from the South before the war was undoubtedly the growth of cotton culture, with its accompaniments—slavery and the plantation system. In part this migration was embodied in the spread of these institutions into the Southwest; in part it was

the result of the pressure which they exerted upon the small farmers and free laborers of the older South. But due weight must also be given to the spirit of enterprise and adventure so thoroughly ingrained in such men as the descendants of the Eighteenth century settlers of the Shenandoah Valley of Virginia and the Piedmont region of North Carolina (largely of Scotch-Irish stock), who, after peopling Kentucky and Tennessee, pushed on from there and from their later centre of dispersion in Missouri, into the newest West.

BIBLIOGRAPHY.—The data furnished by the Seventh Census (1850) and Eighth Census (1860) relating to interstate migration are conveniently tabulated in the volume of the Twelfth Census (1900) entitled "Supplementary Analysis and Derivative Tables." In addition to local and state histories the following treatises are especially useful: Boggess, A. C.: *The Settlement of Illinois, 1778-1830* (in Chicago Historical Society's Transactions, Vol. V, 1908); Flint, Timothy: *History and Geography of the Mississippi Valley* (Vol. I, 2d ed., Cincinnati, 1832); Garrison, G. P.: *Westward Extension* (New York, 1906); Geer, C. M.: *The Louisiana Purchase* (Philadelphia, 1904); Libby, O. G.: *An Economic and Social Study of the Lead Region in Iowa, Illinois, and Wisconsin* (*in Transactions* of the Wisconsin Academy of Sciences, Arts, and Letters, Vol. XIII, 1900); Mathews, L. K.: *The Expansion of New England* (Boston, 1909); Monette, J. W.: *History of the Valley of the Mississippi* (Vol. II, New York, 1846); Pooley, W. V.: *The Settlement of Illinois from 1830 to 1850* (in *Bulletin* of the University of Wisconsin, History Series, Vol. I, 1908); Schafer, J.: *The Pacific Slope and Alaska* (Philadelphia, 1904); Turner, F. J.: *The Rise of the New West* (New York, 1906); Wooten, D. G.: (ed.): *A Comprehensive History of Texas* (2 vols., Dallas, 1899).

ALLYN A. YOUNG,

Professor of Economics in Leland Stanford Junior University.

THE WEALTH OF THE SOUTH.

THE aggregate value of the property in the hands of private citizens is a definite and popular concept. To this aggregate we might add the value of lands, buildings, rights, public utilities, and improvements held in analogous fashion by governments, local and

general. By studying estimates of these values for different countries and divisions and for different times we can get a conception of the progress in the accumulation of wealth and we can interpret the changes in the light of our knowledge of economic laws. Yet such aggregates do not suffice to give us an adequate conception of the wealth of a community as a social unit.

In its broadest sense wealth should be conceived from the standpoint of human welfare and should comprehend all means contributing to it, whether they have commercial value or not. It includes all things animate and inanimate, material and immaterial, and all relations of things to each other which contribute to human welfare. In particular it must include such things as soil, climate, capital, population, education, religion, government, and advancement achieved in the arts of civilization. The use derived from all these things, the utilities satisfied by them, in themselves and in their relations is called the public income and is generally conceived of in yearly aggregates.*

Wealth in its private sense, or property, consists of the rights which have become vested in individuals to hold and control certain portions of the public wealth. The use derived therefrom by them is private income. These things all have commercial value, for they can be exchanged for equivalents by bargaining; and without the consent of the owner they may not be touched by another. These are the things, being only parts of the public wealth, whose values are aggregated and exhibited as though they showed the wealth of the community, a whole of which they are in fact only a part.

Applying the distinctions between public and private wealth to the South before 1865, and reflecting

* Cf. Hadley, A. T., *Economics* (New York, 1896) p. 8.

how few utilities come to us ready prepared by nature and how many need the coöperation of "labor" and "capital" with "land" or nature in their preparation, we note the abundance of nature's endowment in fertile fields and favorable climate; but the scantiness of the population whose labor powers and small accumulation of capital could be combined with it to produce utilities. With all of the development that came there were, from the beginning to the end, possibilities of human enjoyment to be derived for far greater numbers and in far greater amounts than were ever realized. It was a developing country and the steady increase of its wealth resulted from the increased utilization of its vast possibilities.

Under such conditions land did not figure in the estimates of private wealth in proportion to its richness or in like degree with land in older and more populous communities. As there was always land to spare, the owner of a particular piece was able to secure small monopoly advantage out of its control, for land values depend upon scarcity of land as well as upon quantity of product.

At the same time the amount of capital invested in improvements on land was small. In the South there was a minimum demand for such investments except for the clearing and breaking of the soil and for the gin-houses, sugar-houses, and tobacco barns required in preparing the crop for market. Of other buildings the mild climate reduced the necessity to a minimum. The character of the dwelling house of the owner was not determined by considerations of efficiency but of standard of living and social ambition.

Characteristic of the South in contrast with other sections was the circumstance that the very large element of its labor power which was derived from

the slaves figured in the total of private wealth as a form of invested capital. But the freeman, contributing according to his strength, intelligence, and skill to the sum of public weal, resents being estimated in commercial terms, however able he may be to secure in wages, fees, or salary his share of the product.

When under the direction of the energetic undertaker, labor and a minimum investment in the form of fixed and circulating capital can find profitable employment on the land in exploiting agriculture, as it did in the South, there will be little incentive to the investment of fixed capital in large amounts in competition with the established enterprises of more developed sections. Isolated mills and mines there will surely be. But manufacturing will be a small and incidental element in industry and wealth in the early years of settlement. In time industrial investments will come; in time they did begin to come in the South. An unappreciated fact in our economic history is their increase, especially from 1850 to 1860. The war destroyed most of them and they have been forgotten. But the South was accumulating capital out of the profits of its agriculture in excess of what it was investing in new lands and improvements and it was also attracting capital from the outside for investment both in agriculture and industry. With changing conditions, largely those which come with the lapse of time and the increasing density of population, industry was coming to be as remunerative a form of investment as capital could find anywhere.

Take the item of means of transportation. Very early there began to be local private investments in turn-pikes—good roads which swelled the aggregate of private wealth but which contributed to public wealth, and increased the producing capacity of the

community no more and no less effectively than public roads supported by taxation. There were also the stage lines. Then, in connection with the application of steam power to water navigation and with the growth of a population that would insure the necessary minimum of business, there came the rapid development of steamboat transportation with its much larger investments and its stimulus to new business. Finally came the steam railroads, which had made considerable progress especially in the decade before the war. A large accumulation of capital was needed for the initial investment—more than the South had to spare and more than the enterprise would attract on a strictly commercial basis. So borrowings were made for railroad investment not only on the security of the road but on the security of states, counties, and towns; and both the public and the private wealth increased accordingly.

The contribution of the banking business to public wealth is measured by its investment of capital and by the facilities it offers to the transaction of business by the extension of credit in various forms. But we must avoid counting at the same time both the property in the hands of its possessor and the instruments of credit based upon it which entitle the holder eventually to secure possession of the property or of its equivalent.

Not to mention the merchants of all classes there were in particular the merchants dealing in the staple products on commission, or on some other basis. By reason of what they did the planter and farmer the more quickly got his investment out of his crop and means for reinvestment. However much the needy farmer, forced to sell, may have been at their mercy, and however much they may have indulged in sheer speculation it is beyond question that on the whole they promoted public weal.

So the capital of the South, both private and public, was continually on the increase, though it is difficult to ascertain the rate of increase or to get an accurate estimate of the aggregate at any time. Sooner or later all that was private wealth had to go through the courts of probate in the settlement of the estates of deceased owners; and when actually turned into cash or taken at a valuation for the satisfaction of creditors or in distribution among the heirs it must have received its fairest valuation. If now, knowing well the proportion of deaths per annum to the population, we had data to show whether there was a determinable relation between this proportion and that of the aggregate of property probated annually to the total amount in private hands we could compute very accurately the total private wealth in the community from year to year. But such figures have never been compiled.

The figures which are at once the most comprehensive and reliable are those taken by Federal authority from time to time. In 1798 a general enumeration of slaves and assessment of the value of lands, houses, and other improvements was made by such authority for the purpose of levying a direct tax. For similar purposes in 1814 an assessment was made of the value of the slaves, lands, houses, and other improvements then in existence. In 1850 the census officers made official inquiry concerning the value of property in lands and improvements for general information, not for taxation; and similar enumerations have been made with increasing thoroughness and comprehensiveness at each census period since.

Because we need the help of some figures to make our thinking concrete and to bring it into the realm of reality, such figures as may suffice and a summary of these estimates is appended. But they must be

accepted as not more than approximately correct. They may perhaps be most confidently accepted as indicating the relative ranking of states at a given period, though liberal allowance must be made for the range of errors of excess and deficiency due to the difficulties of the task and the personal equation of the enumerators. If we would inquire concerning the tendency of wealth to increase from period to period, we must, in comparing the successive estimates, make still larger allowance for the personal equation and also consider the increasing comprehensiveness of the inquiry. The assessments made in the states for purposes of taxation have not been fully collated; but those of certain states for certain periods have been used to test the accuracy of the Federal estimates with fairly reassuring results.

ESTIMATED TRUE VALUE OF ALL PROPERTY, 1850–1860; AND THE ASSESSMENTS FOR THE DIRECT TAXES OF 1798 AND 1814.

(*Report on Wealth, Debt and Taxation*, Census Office, 1907, p. 43. Pitkin: A Statistical View of the United States, pp. 313, 335. Kettell, *Southern Wealth and Northern Profits*, p. 130.)

[In millions of dollars.]

State or Territory.	1860 Taxable.	1850 Taxable.	1814 Value of Houses, Lands and Slaves.	1798 Value of Houses and Lands.	1798 Number of Slaves.*
Continental United States....	16160	7136	1902	619	393219
No. Atlantic States.....	5592	3131	1042	422	14324
So. Atlantic States.....	2883	1558	675	170	357724
Delaware.....	46	21	14	6	3125
Maryland.....	377	219	123	32	48254
Dist. of Columbia.....	41	14	...	...	....
Virginia.....	793	431	264	71	153087
No. Carolina.....	359	227	94	31	59968
So. Carolina.....	548	288	123	17	65586
Georgia.....	646	335	58	12	27704
Florida.....	73	23	...	...	....
No. Central States.....	3967	1126	61	...	....
So. Central States.....	3449	1287	122	27	21171
Kentucky.....	666	302	87	21	15820
Tennessee.....	494	201	35	6	5351
Alabama.....	495	228	...	...	....
Mississippi.....	607	229	...	...	....
Louisiana.....	602	234	...	...	....
Arkansas.....	219	40	...	...	....
Texas.....	365	53	...	...	....
Western States.....	259	33	...	...	....

BIBLIOGRAPHY.—De Bow, J. D. B.: *Industrial Resources, etc., of the Southern and Western States* (4 vols., New Orleans, 1852-53); Mulhall, M. G.: *Dictionary of Statistics* (London, 1884); Mulhall, M. G.:

*Excluding those incapable of labor and all others under twelve and over fifty years of age. Each able-bodied slave valued at $200 on the average.

"The Concentration of Wealth" (*North Amer. Review*, Vol. 140, pp. 78 ff.); Pitkin, Timothy: *A Statistical View of the United States* (New Haven, 1835); Ruggles, S. B.: *United States of America* (Consolidated Tables Exhibiting the Agricultural Progress of the Nation, New York, 1880).

FREDERICK W. MOORE,
Professor of History, Vanderbilt University.

PROPERTY INSURANCE IN THE SOUTH.

Marine and Fire Insurance.—Property insurance owes its origin to the necessity of distributing the risks of maritime commerce, and in its development and growth it has been a handmaiden to commerce on sea and land. The ante-bellum South, excepting its few large cities, was distinctly non-commercial, and its pastoral populace felt little need for the distribution of trade risks that was found so beneficial in the more commercial Northern communities. Hence we are not surprised to find that the development of property insurance in the Southern states during the first half of the Nineteenth century was even more slow and uncertain than elsewhere in the United States.

The earliest important development of insurance in the Southern states was naturally along the line of marine risks, as was the case everywhere else. In the maritime cities, like Baltimore, Norfolk, Charleston, Mobile, and New Orleans, and in those upon the great inland waters, like Cincinnati, St. Louis, and Memphis, marine insurance attained considerable importance quite early in the century. A marine insurance company was chartered in Charleston, South Carolina, in 1797,* only three years later than the incorporation of the Insurance Company of

*Huebner, Solomon: "Development of Marine Insurance in the United States," *Ann. Am. Acad. Pol. Sci.*, XXVI, 254.

North America, of Philadelphia, which was one of the earliest American fire and marine companies. In Norfolk we find the Marine Insurance Company of Norfolk incorporated in 1802 with a capital of $400,000, and under a charter which deserves more than passing notice. The officers were required to make a public report every six months, and straitly charged not to regard premiums received as profits so long as the corresponding risks were outstanding.* In an act of the Virginia legislature of 1805, incorporating a second company with similar capital and under similar restrictions, the preamble recited that there was need of another marine insurance company in Norfolk.† And we know that in 1830 there was in New Orleans a fire and marine company having a capital of $1,000,000, a huge sum for that day.‡

It is usually stated that the first fire insurance company in the United States was established in Philadelphia in 1752, but the honor of having introduced the practice of insuring against fire upon the Western Continent belongs to Charleston, South Carolina, where, in 1735, was launched "The Friendly Society for the Mutual Insurance of Houses against Fire." From contemporary newspapers we infer that this pioneer society flourished until 1740, when it fell, with a third of the city's houses, in the disastrous fire of that year. In the same city another fire company was formed in 1792, but it seems to have failed shortly thereafter. We know that in 1809 two fire companies were doing business in Charleston.§

At Richmond, Virginia, the Mutual Assurance Society of Virginia was established in 1794.

Statutes at Large of Virginia, II, 437.
†*Ibid.*, III, 130.
‡*Making of America*, III, 36.
§Evidence supporting these statements is very satisfactorily set forth in the 1908 Report of Commissioner of Insurance of South Carolina, 76 et seq.

This venerable company still survives, as does "The Baltimore Equitable Society for Insuring Houses," founded in 1797. Two other fire companies were established in Baltimore in 1807 and 1825, respectively.

The more aggressive companies of the Northern states early began to extend their operations to the Southern states. In 1796 the Insurance Company of North America carried risks in Maryland, Virginia, North Carolina, and South Carolina,* and in 1807 it placed an agency at Lexington, Kentucky, and another at Richmond, Virginia, in 1808.† In 1825 the Protection Insurance Company of Hartford established a Western office at Cincinnati, and thence agencies were rapidly extended throughout the Southern states. The Ætna Fire Insurance Company of Hartford embarked upon the same policy shortly thereafter, and it is evident that these agencies transacted a very considerable volume of business, for the records of the latter company show that a great fire in Mobile, Alabama, in the fall of 1827 entailed such heavy losses as to bring it to the verge of bankruptcy.‡

Beginning with 1830 a rapid expansion of the insurance business in the Southern states took place, responding to the growth of insurance companies of the Northern states in number and influence. Unfortunately we have no official records of the insurance business in the Southern states prior to 1869. Therefore we can only infer their number, their assets and business methods, their troubled history and inglorious ends, from fugitive references in the session laws of the several states and in contemporary periodicals. The relatively large number of com-

*Oviatt, F. C.: "Historical Study of Fire Ins. in the United States," *Ann. Am. Acad. Pol. Sci.*, XXVI, 335, 343.
†*History of the Insurance Company of North America*, 65.
‡Woodward, P. Henry: *Insurance in Connecticut*, 23, 24.

panies that sprang up in the South during the thirty years preceding the war may be inferred from the fact that during that period in Virginia alone no fewer than fifty-six companies were chartered, with power to insure any kind of property against any sort of hazard, while the half-dozen previously chartered marine companies had their charters so amended as to give them the same unlimited field of operation.* As a general rule, however, the management of these corporations was reckless and unscientific, as was the case, indeed, throughout the country. The calculation of risks and premiums was largely a matter of guess-work. There were no statistics available to show the general ratio of property lost to the total amount of property at risk, or to show accurately how the character and environment of property varied the risk of loss. Hence the insurance companies fixed the premiums at such rates as the business would bear, and as a general rule regarded premiums earned as soon as paid, and blithely distributed huge dividends to the stockholders from moneys that should have been held as an insurance fund for undetermined risks. No attempt seems to have been made to avoid numerous localized and contiguous risks, or to re-insure such risks when taken. The inevitable consequence was that such companies prospered so long as no unusual conflagration occurred within the territories of their operation, but a great fire almost invariably threw into insolvency most of the insurance companies doing business in its locality. Thus we are told† that the great fire of 1838 at Charleston, South Carolina, ruined "all the insurance companies," presumably local, while only seven New York companies survived

*See *Acts of Va. Assembly* for the years indicated.

†De Bow, J. D. B.: *Industrial Resources, etc., of the Southern and Western States* (1852), 353.

the great fire of 1835 in New York City.* So also the Protection Insurance Company of Hartford, Connecticut, which was the greatest company of its day, was ruined by the great St. Louis fire of 1849.

While these ante-bellum insurance companies were mostly ephemeral organizations, there were some notable exceptions whose flourishing survival to the present day is the best evidence of the conservative and efficient character of their management during these early years. During the decade before the war some Southern companies seem to have acquired large business and extended their influence widely. Thus the report of the Secretary of the Commonwealth of Massachusetts for 1854 shows that two fire and marine companies of Charleston, South Carolina, maintained agencies at Boston, Massachusetts.

It is also worthy of note that one of these South Carolina companies, The Commercial Fire and Marine Insurance Company, reported Massachusetts risks amounting to $4,324,528, while the next in order among foreign companies doing business in Massachusetts, The Royal Fire and Life Insurance Company, of Liverpool, reported risks amounting only to $2,607,802. The other South Carolina Company, The Firemen's Fire and Marine Insurance Company, stood third in order, with $1,597,246. In the year 1855 the last-named company made the following report of its condition to the Secretary of the Commonwealth of Massachusetts: Capital $200,000; assets $295,586; outstanding risks, marine, $1,345,820, fire $4,187,350. These Boston agencies appear to have been established in 1853, and to have been discontinued in 1856. The later reports of the Secretary of the Commonwealth of Massachusetts make no mention of the South Carolina companies, and we can only speculate as to the reason for the with-

Ætna Fire Ins. Guide (1867), 139.

drawal of these companies from a field that appeared to be profitable. Insurance reports of other states give no evidence that any other Southern companies ever attempted to extend their business into the Northern states.

Before the middle of the century property insurance had already grown to be of such volume and importance as to suggest the need of state regulation, in order to protect the public from fraudulent practices by insurance companies and agents. In Virginia, insurance offices were required to be licensed as early as 1842, and in 1856 quite extensive statutory regulations for the business of insurance were adopted. In the same year somewhat similar regulations were enacted in Tennessee, and, in 1858, in Maryland.

At the time of the outbreak of the war the hard lessons of experience had begun to reduce the business of property insurance to some measure of order and financial integrity. In 1855 Massachusetts established a department of insurance, after earlier tentative efforts to regulate and control the business in the interest of the public, and New York adopted a like course in 1859. The example of the more important commercial states of the North was beginning to promote similar attempts at legislation in the South when the war intervened to throw the insurance business again into chaos. This conflict at once put an end to the Southern agencies of the great Northern companies, and very few of the Southern companies were able to survive the disorders and greatly increased fire risks incident to the progress of that unfortunate struggle. A liberal estimate of the insurance companies chartered before the war, and surviving its close would place the number at sixty-five in all of the Southern states, and these were in a state of suspended animation, rather than living.

Quite three-fifths of these survivors were to be found in Maryland, District of Columbia, and Missouri, which suffered much less from the stress of conflict than did the states south of the Potomac.*

Slave Insurance.—A unique kind of property insurance sprang up in the Southern states in connection with the institution of slavery. Term insurance upon the lives of slaves was carried on to a considerable extent throughout the South. The charter powers of ordinary fire companies were usually broad enough to permit the insuring of slaves, but there were companies incorporated for the express purpose of carrying on this doubtful business,† which must have attained to considerable volume. The tendency of such insurance to cause owners of slaves, and especially those who hired slaves from their owners, to be indifferent to the welfare of these human chattels and generally to lessen that humanity of treatment which so greatly alleviated the evils of this unfortunate institution in the Southern states, was early noted by thoughtful men in the South, and strongly condemned.‡

BIBLIOGRAPHY.—Occasional references, more or less fragmentary and isolated, to the subject of this article may be found in the following works: Bennett, J. B.: *Ætna Guide to Fire Insurance* (Cincinnati, 1867); Critchell, R. S.: *Recollections of a Fire Insurance Man* (Chicago, 1909); DeBow, J. D. B., editor: *The Industrial Resources, etc., of the Southern and Western States* (4 vols., New Orleans, 1852-53); and *DeBow's Commercial Review of the South and West* (Monthly—New Orleans, Washington, 1846-70); *History of the Insurance Company of North America* (Philadelphia, 1885); Huebner, Solomon: "The Development of Marine Insurance in the United States" (in *Annals of the American Academy of Political and Social Science,* Vol. XXVI, Philadelphia, 1905); Oviatt, F. C.: "Historical Study of Fire Insurance in the United States" (in *Annals of the American Academy of Political and Social Science,* Vol. XXVI, Philadelphia, 1905); *Insurance Monitor* (New York, 1867——);

*The Census of 1890 shows that on Jan. 1, 1880, only fifty-one of the Southern companies then doing business had been incorporated before the Civil War, of these thirty-one were to be found in Maryland, District of Columbia, and Missouri.

*Two such companies were chartered by the Virginia Assembly. A slave-policy of 1859 may be found copied in full in Reade, A. Arthur: *Story of Life Insurance*, 126.

†De Bow, J. D. B.: *The Industrial Resources, etc., of the Southern and Western States*, II, 299.

Insurance Times (New York, 1868-93); Reade, A. Arthur: *The Story of Life Insurance* (Wilmslow, England, 1903); *Reports of Secretary of Commonwealth of Massachusetts on Insurance for 1851, 1854, 1856* (Boston) *Report of Insurance Commissioner of South Carolina for 1908* (Columbia, S. C., 1909); *Senate Journals, House Journals,* and *Session Laws* of the Several Southern States, particularly of Virginia and Kentucky; Walford, Cornelius: *The Insurance Cyclopædia* (6 vols., London and New York, 1871-80); Woodward, P. Henry: *Insurance in Connecticut* (Boston, 1897); Zartman, L. W.: *Yale Readings in Insurance* (New Haven, Conn., 1909).

WILLIAM R. VANCE,
Dean of the Faculty of Law, George Washington University.

LIFE INSURANCE IN THE SOUTH.

LIFE insurance in the South before the war was such a decidedly hazardous business, that few local companies were organized for its transaction, and few Northern companies encouraged their Southern agents to write any considerable amount of insurance. The earliest successful effort to establish a Southern life insurance company appears to have been made in 1830, when the Baltimore Life Insurance Company was organized with a capital stock of $50,000, which was increased to $100,000 in 1836. Two years later the company was authorized to add a trust business and to increase its capital to $2,000,000. The life insurance business was always quite small, and in 1867 the amount remaining in force, to the extent of ninety-nine policies, was re-insured with the Equitable Life of New York. No complete record of this company has been preserved, and while it has a small documentary history, the publications pertaining to it are exceedingly rare and practically unobtainable.

In 1832 the company published a tract entitled "Proposals and Rates," in which the date of incorporation is given as the December session, 1830, and

the office address as 21 Second street, Baltimore. The tract includes a complete copy of the charter, which had been made perpetual at the December session of the Maryland legislature of 1831. The incorporators were Messrs. John Gibson, Edward G. Woodyear, John I. Donaldson, Robert Oliver, W. W. Taylor, S. I. Donaldson, Joseph Todhunter, Alexander McDonald, Henry Didier, Thomas L. Emory, Alexander Fridge, Edward Didier and Benjamin D. Higdon. The officers were Mr. John I. Donaldson, president, and Mr. George Carr Grundy, secretary. The objects of the company are stated to be "Insurance on lives," "Purchase and sale of annuities," "Receiving endowments," "Receiving money in trust," and "The management of trust estates." The rates are stated to be the same as the rates in use throughout the United States. The ages at which proposals were accepted were from ten to sixty-five. The conditions include the rather interesting precaution that "Policies embracing risks at sea and other risks excluded in usual policies, will be granted at an increased rate of premium. But they are never made to include death by suicide, or duelling, or for violation of the law." A charge of one dollar was made for each policy unless by special contract. Fragmentary references to the company and its business occur in the commercial literature of the period, and, among others, *Hunt's Merchant's Magazine and Commercial Advertizer* for 1843 contains the statement that:

"There was insurance effected on *nine* persons during the month of August in the Baltimore Life Insurance office, viz.: One mariner, one engineer, four merchants, one mechanic, one clerk, one farmer; of these, six were insured for $5,000 and under, three for $1,000 and under. We are gratified to find that this branch of insurance, so popular in England, is gaining favor in the United States. Merchants and clerks and indeed *all* engaged in the precarious pursuits of trade and commerce, who have families, should invest their surplus revenue in this way."

The termination of this company's active career is briefly referred to in the *Insurance Monitor* for 1867, in which it is stated that:

> "This old company, although conducted with honesty and prudence, has been outstripped in the race for patronage by modern competitors, paying attractive dividends. It has accordingly, with commendable discretion, re-insured its risks in one of our most flourishing Life institutions, the Equitable, which has absorbed into its vigorous system nearly a hundred of its policies, the dates of which extend from 1837 to the present time, and cover an insurance amounting to $275,000. Although these policies acquired no dividends in the old company, they will be entitled to them in the Equitable, which of course received a proper equivalent for assuming the risks."

In 1836, it appears from very fragmentary records, that the Southern Life and Trust Insurance Company was organized in Mobile, but of its subsequent history and experience no trustworthy records are available. The same holds true for the Kentucky Mutual Life, which failed in 1856, and to which there is a brief reference in the *Insurance Monitor** for that year. The name of this company must not be confused with the Mutual Life of Kentucky, organized in 1866 as the Southern Mutual Life, and of which it is known that throughout its early career it transacted a small though satisfactory business on conservative lines. This company was re-insured in the Illinois Life Insurance Company of Chicago in 1902.

Previous to 1850 there was in existence in Louisiana a corporation with the name of The Mutual Benefit Life and Fire Insurance Company, which is referred to in a special report to the Louisiana State Medical Society, on "The Meteorology, Vital Statistics and Hygiene of Louisiana," by Dr. E. H. Barton, published in 1851. Dr. Barton mentions the name of the actuary, who was a Mr. H. G. Heartt, and

*p. 31.

who had prepared a brief report upon the company's mortality experience, including a period of one year and nine months ending with April 1, 1851. The most interesting facts disclosed by this experience may be summarized in the statement that of the total number insured, 266 were white and 716 were negroes. The insurance of slaves at this early period was carried on to quite a considerable extent throughout the South, and a full historical account of the practice would be a most desirable addition to the literature of insurance and slavery. It is a significant fact that in the experience of the Mutual Benefit Life and Fire Insurance Company of Louisiana the mortality rates of the whites had been 0.75 per cent., while for the negroes the rate had been 2.51 per cent. The very limited extent of the company's operations, however, is indicated by the fact that during the twenty-one months of experience there had been only eighteen deaths of negroes and two deaths of whites. It is a matter of regret that no historical account should be available regarding this company, its organization, and officers, except the name of the actuary, incidentally referred to in the treatise mentioned.

The practice of slave insurance was of considerable economic importance. It was divided into the assumption of risks on slaves considered either as cargo or as property in the same sense as goods or merchandise in general, and the insurance of slaves on Southern plantations or in transit from one city to another, in the same manner as livestock insurance is conducted at the present time.

An early writer on insurance * states that in the insurance of slaves, " the insurer takes upon him the risks of the loss, capture, and death of slaves,

* Weskett, in his *Digest of the Theory, Laws and Practice of Insurance*, published in 1781.

or any other unavoidable accident to them: but natural death is always understood to be excepted; —by natural death is meant, not only when it happens by disease or sickness, but also when the slave destroys himself through despair, which often happens: but when slaves are killed, or thrown into the sea in order to quell an insurrection on their part, then the insurers must answer."

The insuring of slave cargoes by Empire slaves seems to have been common.*

The fact must not be overlooked that previous to the definite steps taken by the United States and England for the abolition of the slave trade, this traffic constituted neither piracy nor crime in international law. Insurance of slaves is occasionally referred to in text-books of maritime law, but the prohibition of the slave trade in 1807 and Section V of the English Statute, 47 George III c. 36, by which the insurance of slaves was prohibited under a penalty of £100 and three times the amount of the premium, effectually put an end to the practice which under earlier conditions had its legal and commercial justification.

The insurance of slaves on plantations naturally arose out of the high average value of slaves and the comparatively excessive mortality of the negro race. It would seem that the insurance of slaves was at first combined with fire and other property insurance, and between 1845 and 1848 a number of

---

* Samuel Marshall in his treatise, *The Law of Insurance*, the second American edition of which was printed in Philadelphia in 1810, says, "For upwards of two centuries, a commerce in negro slaves has been carried on by the several maritime states of Europe, for the purpose of supplying their colonies in America and the West Indies with labourers. The unfortunate objects of this cruel traffic were formerly too much considered as mere merchandise. The merchant insured them as such and, with us, till lately, he was protected by the policy against any loss sustained in the voyage, even by mortality, if it could, by any construction, be attributed to any of the perils mentioned in the policy. At length, however, the British legislature, roused by the calls of humanity, has interposed, and though it was not thought wise at once to abolish this trade altogether, it was subjected to many wholesome restraints, not only in the manner of carrying it on, but also in the insurance of it."

policies on slaves were issued by the North American Insurance Company.*

The Phœnix Insurance Company of St. Louis, insured slaves at Memphis, Tenn., on the 10th of March, 1851. The policy bears the title "Negro Policy," and the number 365; the premium paid was $85.39, and the risk was for $8,000 for three months on sixteen slaves, being valued at $500 each. One loss was sustained under this policy, that of a negro girl, and the claim was settled at Memphis by the firm of Bolton, Dickens & Company.†

The Ætna Fire Insurance Company issued a policy‡ covering fifteen negro slaves, which was considered to be, and in all probability was, the only policy ever issued by an American company covering human beings against loss by fire or marine accident.

---

* The History of the North American Life Insurance Company contains the following interesting Statement: "Beginning with May, 1845, the business of the Company averaged about 20 policies per month during the remainder of the year; in January, 1846, there were 36, and in February 119. This sudden increase was due to the enterprise of a few southern agents who persuaded the Company to accept risks on the lives of slaves. During these two months 86 slave policies were issued, and of the first 1,000 policies 339 were on the lives of slaves. The amounts were usually less than $500, and the term one year; occasionally one policy covered several lives. Policy No. 799 was issued on the lives of three slaves, and Policy No. 268 was issued on the lives of ten slaves and on white man. The first death-claim paid by the Company was under a slave policy, the entry in the *Journal*, under date of November 2, 1846, reading as follows: 'Paid F. Alonzo Clarke (of Richmond, Va.) the amount insured on his slave, Philip Swan, per Policy No. 228 (died August 28, 1846), $225.' There were three death claims under slave policies in the period under review, the total amount paid being $1,050. The issue of such policies was discontinued by direction of the trustees, April 19, 1848."

† In the account referred to it is stated that the restrictions in the policy read that the said slave "shall have only the privilege of traveling in the usual conveyances on land, rivers, lakes, or inland seas, and of residing in any of the states or territories of this Union, or the British provinces of North America, north of 30 degrees north latitude and 20 degrees west longitude from Washington city, except that from the 15th of July to the 1st day of November, in each and every year, it shall not be lawful for the insured to visit or reside south 34 degrees north latitude, and 20 degrees west longitude from Washington city, or enter into the military or naval service whatever (the militia not in actual service excepted), without such permission previously obtained and endorsed on this policy, or in case they shall die in consequence of a duel or by the hands of justice, or in the known violation of any law of this state or of the United States, or of the said provinces, or if the said slaves shall be engaged in any capacity on a steamboat, raft, or vessel of any description, without permission of the said company previously obtained and endorsed on this policy, or shall run away or be kidnapped; then and in all such cases the said company shall not be liable for the payment of the said sum insured or any part thereof, and this policy so far as relates to such payment shall be entirely avoid. This policy shall be void if assigned without the consent of the company."

‡ *Insurance Herald*, Louisville, Ky., November 25, 1895.

There is a further record of a policy having been issued on February 7, 1860, by the Lynchburg Hose and Fire Insurance Company, insuring the owners of John Page, a slave of Lynchburg, and employed in a tobacco factory, against loss by his death. The policy was No. 1,363 and insured the owners of John Page in the amount of $800, for a premium of $15.50. The policy ran for one year, was renewable for four years, and contained the provision that the slave might be employed as a laborer at an iron foundry, without prejudice to the insurance.

In 1860 a bill was introduced in the Maryland senate to incorporate the Southern Slaveholders' Insurance Company of Maryland, which granted power to the company to insure any person or persons, whether the same were residents of the state of Maryland, or any other state, etc.*

That the practice of insuring negro slaves was not, however, confined to Southern institutions is apparent by a public circular of the Knickerbocker Life Insurance Company of New York, which offered to insure negroes at a rate not exceeding three-fourths of their cash valuation for a term of one year or five years, at ages 14 to 51, inclusive, according to a table of premiums published with the announcement. Negroes employed on canal boats were charged one-half per cent. extra; those on railroads one per cent.; those on steamboats one-and-a-half per cent.; those on fishing and pilot boats, coasters, and rafts and rice fields, two per cent. Risks were taken only on sound, healthy, acclimated and vaccinated subjects.

A writer in DeBow's *The Industrial Resources of the Southern and Western States* in 1853 called

* A full account of this interesting undertaking was printed in the *Insurance Monitor* of 1860, p. 129.

attention to the precarious nature of insurance of this kind, and said that it was not probable that the insuring of slaves would become customary with masters "except in those instances where they suppose some extraordinary risk to life is incurred," and in such cases the chances of the risks were against the underwriters.

The high average death rate prevailing in the principal Southern cities previous to the war is in itself a sufficient explanation of the slow progress of life insurance throughout the Southern states. The white death rate of Mobile, Ala., was 45.8 per 1,000 for 1843-46, 42.5 per 1,000 for 1847-50, and 54.39 per 1,000 for 1852-55. The corresponding death rate of the white population for the city of Charleston was 29.79 per 1,000 for the ten-year period ending with 1860. The death-rate for Savannah was 37.19 for the five years ending with 1860, while the death rate of New Orleans for the period 1849-60 was 59.6 per 1,000. As a rule, the death rate of the colored population of this period was somewhat lower than the death rate of the white population.

All the early writers on Southern medicine confirm the view that the death rate in the South before 1861 was very much higher than in the North, and that the relative excess in the mortality was decidedly higher among Southern white males, or, in other words, the very class which would constitute the clientele of a life insurance company. The responsible causes were chiefly topography, climate, habits, and the generally backward sanitary condition of the country, subject, fortunately, to improvement through human agencies applied with energy and skill.

In 1844 Dr. Robley Dunglison, professor of medicine in Jefferson Medical College of Philadelphia, published a treatise on human life, in which there

occur some very interesting observations upon life insurance practice in the South. An Englishman by birth, he states that when he was about to leave Great Britain to occupy the station for which he had been selected by the University of Virginia, a life insurance company of which he was a member declined to continue the insurance unless the premium was doubled,—a requisition which, in his own words, compelled him to sacrifice the policy. Referring to a cyclopædia of practical medicine of the period, the author calls attention to a statement, which he considers very much exaggerated, that "in the marshy districts of certain countries, for example Egypt, Georgia, and Virginia, the extreme term of life is stated to be forty; whilst we learn from Dr. Jackson that at Petersburg, in the latter country, a native and permanent inhabitant rarely reaches the age of twenty-eight." Granting the very apparent tendency to exaggeration, however, Southern authors fully familiar with the facts as confirmed by the vital statistics of Savannah, Mobile, and New Orleans fully sustain the conclusion that the health conditions previous to the war, and practically throughout the whole South, were decidedly unsatisfactory.

The most comprehensive account of the value of human life in the South is contained in the great work by DeBow on the health and resources of the Southern states,* published in 1852-53. The brief discussion of insurance by DeBow is of exceptional interest as perhaps the first qualified account of the practice in a Southern periodical. The author remarks that:

"The protection afforded by marine and fire insurance companies is now so well established that no prudent man can be found to risk a ship at sea, or a house in town, without a policy. We have in the United States not only become familiar with the doctrine of probabilities, on which such companies are organized, but our experience

* *The Industrial Resources etc. of the Southern and Western States.*

has been sufficiently long and large to establish fully their safety and utility. *Life insurance,* on the contrary, with us is still in its infancy, and its importance not yet fully realized. Marine and fire insurance have done much towards giving a firm and steady march to commerce and all those transactions which bring prosperity to individuals and nations, and life insurance is but another strong link in the great chain. * * *

"Life insurance in Europe, like marine and fire insurance, is based on long experience and ample statistics. Tables of mortality there, have been kept for a long series of years, and the laws are fixed. In our country vital statistics are very imperfect, and our climate, habits, diseases, etc., are so different, that the same rules are wholly inapplicable. Statistics must be accumulated through some threescore and ten years before the laws of mortality here can be fairly made out, and our way clearly seen.

"It is to be feared that life insurance now, like banks a few years ago, are becoming affairs of speculation, and that some of them will terminate not less unfortunately. There is an overanxiety for patronage, and a carelessness in selecting risks, which is often apparent, and which should cause the prudent to pause and reflect.

"All the life insurance companies of the United States are north of the Potomac, as are nearly all the writers on vital statistics, and we are well satisfied that a want of local information and personal observation have led them into many grave errors respecting our condition at the South. From a half to one per cent. more is demanded on Southern than on Northern risks, and we propose now to inquire if there be sufficient reason, under all circumstances, for this distinction."

After an extended discussion of early Southern mortality data, the author concludes that:

"We do not wish to be considered an apologist of Southern climates generally; on the contrary, no one regards the bilious fever regions of the South with more horror than we do. Though we are satisfied that the gulf coast generally and many portions of the Atlantic states will compare favorably with our northeastern states, we wish it borne in mind that we are now illustrating the climate of seaports alone.

"When, then, we take into consideration the fact that yellow fever attacks only the *unacclimated,* and that bilious fevers do not affect to any extent the Southern seaports; that these cities are comparatively exempt from many other zymotic diseases, as well as those arising from cold; that tables of mortality include all classes, and that it is only the better classes who apply for life insurance, we have strong reasons for concluding that the mortality in Charleston for the last six years may be assumed as a safe measure for estimating the probabilities of life in that city, as well as in those of the gulf.

"We will here bring to a close our imperfect sketch, and must refer the reader who is curious in such matters, to more extended life statistics, which we have given in the *Southern Journal of Medicine,* published in Charleston. The Southern cities can not expect, nor do they deserve justice on the subject of Life Insurance, until their vital statistics are properly kept. The subject is one of great importance, and should be looked to."

That the subject of Southern mortality attracted considerable attention in the North is made evident by numerous references in a report on the vital statistics of the United States, made to the Mutual Life Insurance Company of New York, by Dr. James Wynne, in behalf of some eighteen Northern life insurance companies. The report contains numerous references to Simon's work on the sanitary condition of New Orleans, Barton's "Vital Statistics of Louisiana," and Nott and Glidden's "Indigenous Races," etc. Among other interesting observations the report called attention to the fact that Southern mortality was greatest in middle life, or at the period which naturally is of most importance to life insurance companies.

What is probably the first qualified statistical inquiry into the subject of Southern mortality appeared in the census of the city of Charleston for the year 1848, prepared by J. L. Dawson, M.D., and H. W. Desaussure, M.D., published in 1849. The authors of the report in commenting on the health of the city and mortality data for 1822-48, observed that the calculated chances of life "are the first ever calculated for this latitude based upon the ages at death of the resident population; all insurancies upon life having been hitherto effected upon tables calculated for the British population or the population of northern cities." In 1850 a very valuable article on the mortality of Baltimore with reference to the principle of life insurance, was contributed to *Hunt's Merchant's Magazine and Commercial Review* by Prof. C. F. M'Cay, of the University of Georgia, which includes an abridged life table of Baltimore and some very suggestive reflections upon the risk involved in a reduction of the rates of life insurance companies transacting business in the South. A very interesting report on

mortality statistics was published in 1855 as a part of the Seventh Census of the United States by J. D. B. DeBow, which includes some of the earlier vital statistics of Southern cities and which constitutes the first attempt to collect the statistics of death of all the Southern states. It requires, however, to be stated as a matter of historical accuracy that to Kentucky belongs the credit of having first instituted a series of observations upon a large scale, the object of which was to ascertain the relative healthfulness, fecundity, and longevity of the white and of the colored population, resulting in the publication of a series of valuable statistical reports, from 1852 to 1860. It would appear that the system of registration was established in Kentucky as the result of the report of a select committee of the legislature on a petition of citizens of Scott county, requesting the enactment of a law requiring the registration of births, deaths, and marriages in 1850.

It required no elaborate sanitary investigations to establish the fact of a higher mortality in the South than in the North, but as early as 1849 a very valuable report was made by the Committee on Public Hygiene of the American Medical Association, which includes a number of special reports on the health of New Orleans, by Dr. Edward H. Barton; a report on the sanitary condition of Charleston, by Dr. P. C. Gaillard; and a sanitary report on Baltimore, by Dr. James Wynne, the author of the joint report of the vital statistics prepared for the information and use of Northern insurance companies. In the report by Barton there is a brief reference to the experience of the Sons of Temperance, exhibiting the mortality among the members of that body. This experience brought out many startling facts, particularly with reference to the excessive mortality in early life.

The facts of Southern unsanitary conditions did not escape the attention of Northern life insurance companies, and in an historical account of the New York Life Insurance Company it is stated:

"The presence of yellow fever in the seaports of the Southern states had always been considered an additional risk to policy-holders residing therein, and early in 1850 careful inquiries were made of resident physicians, and the following rules adopted respecting the issue of policies: Persons who had recovered from yellow fever, or who had resided continuously in a Southern seaport for five years in one of which yellow fever had prevailed, were to be insured at the usual rates; persons who resided in such ports in winter, and in healthful portions of the interior in summer, were to be charged an extra of one-half of one per cent. on the amount insured; persons who had resided in such ports continuously for two years, and who continued so to reside, were to be charged one per cent. extra. Persons not falling in one of the above classes were not to be insured."

The cholera and yellow fever epidemics of 1854 induced the New York Life Insurance Company, in December of that year, to make an extra charge of one-half per cent. on whole life policies issued to residents of Southern states, and of one per cent. on short term policies. These rates were for acclimated persons; rates for unacclimated persons were left to be determined when the insurance was applied for. In response to a resolution of the trustees, the officers of the company submitted, in December, 1859, a report showing the premiums received and the losses incurred at the Northern and Southern agencies, which were respectively as follows: "Premiums received on Northern business $2,556,929, Northern losses $904,941, being 35.5 per cent. of the premiums; premiums received on Southern business $580,225, Southern losses $309,870, being 53.5 per cent. of the premiums. The estimate of total insurance carried one year in the South was $18,000,000, from which it was concluded that an addition of three-fifths of one per cent. to the extras then charged was necessary to place the business of the two sections on an equal basis. It was recom-

mended, however, that no action be taken until further investigation could be made."

As the result of a subsequent inquiry, the extra premium for the Southern Atlantic states was fixed at one-half of one per cent., and for the Gulf states, at two per cent. The high rate for the Gulf states was, of course, chiefly on account of the continuing excessive mortality of New Orleans.

The admirable course of the New York Life Insurance Company in giving publicity to some of the historical facts of its Southern experience has not been followed by other institutions. The question, however, assumed great practical importance at the outbreak of the war, particularly as to the respective rights and obligations of Southern residents holding policies in Northern companies. With reference to the disturbed state of affairs, it is observed in the *History of the New York Life Insurance Company* that:

"The difficulties which surrounded the managers of Northern life companies in 1861 were little less perplexing than those which confronted the government at Washington. Their contracts were of a peculiar kind; they required periodical payments, and the hazard under them was increased by a state of war. This increased hazard did not apply solely to those who might enter the military or naval service, but the hazards of civil life, especially in the Border States, were sometimes but little less than those of the camp and the battlefield. In Maryland, Kentucky, Tennessee, and Missouri men were arming themselves against their neighbors, and there was constant fear of invasion and of mobs and incendiaries. Trade and commerce were almost at a stand-still; exchange between New York and distant points was held at ruinous rates; communication between the North and South was frequently interrupted, and finally cut off altogether."

It is pointed out with commendable pride, that in the history of the company during this period there is nothing more touching, and nothing more creditable, both to the company and to its Southern policyholders, than the persistence with which they clung to the hope of peace, and it is a pleasure to record the fidelity and high sense of honor with which the

Southern agents discharged their trust as custodians of the company's funds, notwithstanding contrary edicts and wide-spread repudiation. Holding opinions of necessity widely at variance, officers and agents in the North and South alike continued to discharge the duties growing out of their relations to policy-holders in such a manner that, when the war ended, both were prepared to resume these relations without recriminations and with mutual confidence and respect.*

The historical account of the experience of this great company no doubt conforms in all essentials to the experiences of other Northern institutions. As observed by the author of the history referred to, the beginning of the year 1861 brought repetitions of the inquiry as to the assumption of the war risk under Southern policies, which, in December, 1860, had been answered in the negative. Members of Northern militia organizations began to ask what the status would be in case they were called into active service. The answer was the same in substance to all, namely, that although the policies forbade actual service, the company would take the liberal view that the mere fact of service would not invalidate the policy, unless death ensued, or the insured's health was impaired thereby. It was conceded by the company, however, in a letter to a Southern policy-holder, dated Jan. 29, 1861, that "The fact of war existing between the Federal and State governments does not vitiate our policy. Should you be killed while acting in your own defense, or that of your family or property, the company will pay the sum insured. Only in event of joining the contending forces will the policy become a forfeiture, should death ensue." After this the question arose as to

* Semi-Centennial History of the New York Life Insurance Company, 1845–1895, by James M. Hudnut, N. Y., 1895, p. 68.

how payments could be made during this disturbed state of affairs, with interrupted communications for months and perhaps years. To an inquiry of this kind the company replied, under date of Feb. 13, 1861, that the insured "might pay in any way convenient to himself, and that 'all the obligations of the Company to its policy-holders will be faithfully and honorably met under any and all circumstances.'" The question was then asked by Captain Foster, the engineer officer in charge of the work of completing Fort Sumter, writing under date of Feb. 4, 1861, whether, if in the case of an attack by the forces of South Carolina, he were to lose his life, the company would pay the claim. In answer, it was stated that while such a risk was not legally covered by the company, it was practically certain that there was patriotism enough in the board of trustees to waive the legal question which might arise under the policy, and that the amount of insurance would be paid upon the ground of death having occurred as an act of self-defence. The construction which the company placed upon the clause in its policies, which read that the same would be void if death occurred "in the known violation of any law of the United States," was that if in consequence of such action on the part of the insured, either North or South, the company would not hold itself responsible under the conditions of the policy. It was pointed out in the letter of explanation that, "Regretting, as we most sincerely do, the necessity which compels us to this course, justice to our policy-holders at large requires us to assume this position, and we know of no company in this city or elsewhere disposed to take a different view of the present most unfortunate condition of our national troubles."

No full account of these transactions has been made a matter of historical record, but difficulties of

this nature were not, of course, confined to insurance companies, but they affected commercial enterprises of every kind.

The foregoing account of Southern life insurance history but suggests the very fruitful field of qualified research into this branch of commerce in the South previous to the close of the war. Aside from the life branch, both marine and fire insurance are entitled in their historical aspects to more consideration than they have thus far received. Brief mention may be made of an important treatise on the practice and jurisdiction of the Court of Admiralty, by John E. Hall, Esq., published in Baltimore in 1809. This work two years later was followed by an English translation, by the same writer, of Emerigon's classical treatise on maritime loans. In 1818 there was published in Baltimore by Edward J. Coale a treatise on the Laws of the Sea, with reference to maritime commerce during peace and war, translated from the German by William Frick, Counselor at Law. An abridgment of the maritime law was published in 1859 by Mr. Francis B. Dickson, average adjuster and insurance broker of Norfolk, Va., and no doubt other works of this nature were contributed by Southern authors and published in Southern cities previous to the outbreak of the war. It is unfortunately true of all matters of this kind, as has very properly been observed with reference to commercial documents generally, that the records are most fragmentary, and that most of the essential papers, pamphlets, policies, etc., have been irretrievably lost or destroyed. By mere chance some of these documents survive in family or state archives, and it is of great historical importance that they should be carefully preserved, indexed, and brought to public notice. Fragmentary references of interest and value are to be found in the newspapers and periodi-

cals of the time, but at best and at most, the account which can be rendered of early life insurance institutions and transactions in the South must ever be more or less unsatisfactory and inadequate. It is to be hoped, however, that some future historian will succeed in recovering and preserving these evidences of Southern enterprise of a kind which must ever be a most interesting, suggestive, and romantic chapter in the annals of merchant adventure throughout the world.

FREDERICK L. HOFFMAN,
Statistician, Prudential Insurance Company of America.

THE CIVIL WAR AND SOUTHERN ECONOMIC DEVELOPMENT.

THE ECONOMIC CAUSES OF THE CIVIL WAR.

SOUTHERN writers have generally regarded the Civil War as the climax of a great constitutional struggle, as a conflict between two opposing theories of government: State sovereignty and nationality. Northern writers, on the other hand, have belittled the constitutional issues involved and dwelt at length on slavery, especially its moral aspects. Both have failed in large measure to appreciate the significance of the underlying economic differences, which formed the basis of sectionalism. The South was by nature an agricultural and exporting section, while the North was commercial and manufacturing. The South was dependent upon foreign markets for the sale of its products and therefore advocated free trade, while the North felt that its development was dependent upon the protection of its industries and the creation of a home market. Slave labor was not suited to the climate or to the diversified industry of the North, while it flourished under Southern skies and was ideally adapted to the cultivation of the staple crops of tobacco, rice, sugar, and cotton. As free and slave labor are mutually exclusive, free labor became in time the fixed type at the North, and

slave labor the fixed type at the South. Under the impetus of skilled labor Northern industries became more and more diversified, while the South was limited by its labor system to a few staple productions. The expansive agricultural system of the South demanded a liberal public land policy, while the North on account of the scarcity of labor tried to restrict the sale of public lands, and to retard the westward movement of population. In like manner the South favored territorial expansion and the North opposed it.

Foreign immigration further accentuated sectionalism, for it passed by the South, where it had to face the competition of slave labor, and poured over the North and West. Thus laborers from all parts of Europe, many of them skilled in the industrial methods and processes of the old world, further expanded the naturally diversified industries of the North and West, changing the whole face of civilization, while the South remained fixed in her economic system. The significance of foreign immigration was as great on its political as on its economic side. The newcomers, imbued with European ideas of government and without inherited state or local ties, swelled immensely the forces of nationality. The South, it is true, expanded territorially, but the main features of her social and industrial system underwent scarcely any modification, while the rest of the country became more and more unlike her in its fundamental social structure. As soon as the South began to feel its isolation and to realize the danger of being outvoted on vital questions of economic policy, it assumed the defensive and took refuge behind the doctrine of state sovereignty. A generation of Southerners then grew up under the leadership of Calhoun who stoutly opposed the new doctrine of Federal supremacy as preached by Webster and re-

garded the preservation of the Union on the terms of the original compact as the most vital of all issues.

The Plantation System.—In any study of the economic organization of the South the plantation system demands first consideration. The plantation was not the outgrowth of slavery, as is commonly supposed, but was well established before slavery became a fixed system. In this all students of the early period are practically agreed. Mr. Bruce, in his *Economic History of Virginia in the Seventeenth Century, says:* "The system of large estates was the result of the special conditions of tobacco culture alone. It did not spring from the existence of slavery, although that institution, by furnishing a cheaper laborer, gave a strong impulse to the expansion of the area included in the tract of each plantation The plantation system of Virginia was founded upon a permanent basis many years before the number of slaves in the colony had reached a thousand." Tobacco culture was very exhausting to the soil and under the system of cultivation then in vogue required the constant clearing of new land and the abandonment of old. The scientific care and improvement of soils were of course unknown in the early days, and even if they had been known, the expansive system would have been cheaper where there was an abundance of new land. Tobacco culture was introduced in Virginia in 1612 and by 1616 tobacco had become one of the staple crops and it soon became the chief product. When to the staple export crop and the large land grant of the early days—the two chief elements of the plantation system—there was added non-free labor, first in the form of indented servitude and afterwards of African slavery, we have the three characteristics of an agricultural system totally different from that of the North, which had free labor, small land grants, and cereal or

food products. The population of the North became denser and the surplus wealth was employed in new industrial enterprises, while the population of the South expanded over wider areas and the surplus gains of successful planters were spent in buying up the lands of their poorer neighbors and enlarging the tracts of the original plantations. There was little or no surplus capital in the South for industrial enterprises. Canals and railroads were almost entirely dependent upon State or local government aid, either through subscriptions to stock or guarantee of the bonds of private corporations.

Slave Labor.—The first negroes were brought to the colony of Virginia in 1619, but during the next forty years the number rose by natural increase and new importations to only three hundred. Slavery was established by statute in 1661. No new country ever has enough cheap labor, and this is especially true of new agricultural communities, where land is cheap and plentiful. The demand for cheap labor in Virginia, as in most of the colonies, was first met by the development of the system of white servitude, which made its appearance early and developed rapidly. Throughout the Seventeenth century it was the main source of labor supply in the Southern colonies. In 1683 there were nearly 12,000 white servants in Virginia and only 3,000 slaves. The treaty of Utrecht of 1713 gave England a monopoly of the slave trade with the Spanish colonies and the surplus slaves were dumped on the British colonies despite their protests. Under this policy slavery grew by leaps and bounds, until by the middle of the Eighteenth century the number of slaves in Virginia was rapidly approaching that of the entire white population, 120,156 blacks to 173,316 whites. According to Jefferson's estimate in 1782 the slave population numbered 270,762 and the white 296,852. This was

probably as large as the ratio ever became in Virginia, for the first United States census gives the slave population as 292,627 and the white population as 442,117. In only one other state was the proportion greater: South Carolina had 107,094 slaves and 140,178 whites. According to this same census more than nine-tenths of all slaves were found in the Southern states, and there they formed about one-third of the entire population: 648,651 slaves to 1,226,057 whites.

The ease with which slavery was abolished by statute at the North shows that it had not taken deep root in the industrial system of that section, for the moral sentiment against it there was at this time no greater than in Virginia. The leading Virginia statesmen regarded the growth of slavery with no small degree of dread and Virginia was the first state to prohibit the foreign slave trade (1778). When the question arose in the Federal Convention of 1787, South Carolina and Georgia were the only states which wished to continue the slave trade, but New England needed more votes to give the Federal Government control over foreign commerce, so a political deal was soon arranged. South Carolina and Georgia agreed to vote for Federal control of commerce and Massachusetts, Connecticut, and New Hampshire agreed to vote for a continuation of the slave trade for twenty years. When this compromise was adopted slavery was generally regarded as a decaying institution, but a new factor was soon introduced which imparted new life to it and before the twenty-year period was up the slave population of the country had almost doubled.

Cotton Culture.—In 1793 Eli Whitney, a native of Massachusetts and a graduate of Yale, who was teaching school in Georgia, invented the cotton gin. Prior

to this invention a slave could pick the seed from about five pounds of cotton a day. With the gin he could clean three hundred pounds. South Carolina and Georgia were the only cotton producing states and the culture was limited largely to the sea-island or long-staple variety, which could be more easily cleaned. The invention of the gin made it profitable to cultivate the short-staple variety, which could be produced in the interior or Piedmont section. Improvements in the textile industries in England had already made the demand for cotton greater than the supply. The invention of the gin, therefore, gave a great impetus to the industry and a new lease of life to slavery. In 1791 the entire cotton crop of the South was 2,000,000 pounds; in 1801 it had risen to 40,000,000; in 1811 to 80,000,000; in 1821 to 177,000,000; in 1834 to 457,000,000; in 1850 to 978,317,200; and by 1860 to the enormous amount of 2,154,820,800. This was more than seven-eighths of the world's production. With a practical monopoly of an article so indispensable to civilization it is no wonder that the South believed that cotton was king.

After the invention of the gin North Carolina and Virginia took up the culture of cotton, but its main field of extension was the Southwest, where it spread with astonishing rapidity, carrying with it slavery and the plantation system. A greater South was brought into existence as if by magic, possessing all the economic characteristics of the old South in an intensified form. By 1834 the new states of Tennessee, Louisiana, Mississippi, Alabama, Florida, and Arkansas produced 297,500,000 pounds of cotton, while the old states of Virginia, North Carolina, South Carolina, and Georgia produced only 160,000,000 pounds. The South became more than ever the great exporting section of the country. During the decade 1820-1830 the average annual value of the ex-

ports of cotton, tobacco, and rice was about $33,000,000, while all other domestic exports from the entire country amounted to only $20,000,000.

The West in Relation to the South.—The existence of an ever expanding West affected the economic and industrial systems of the older states to as great a degree as it influenced their politics. In the early days of the Nineteenth century settlers from Kentucky, Tennessee, Virginia, and North Carolina poured into Ohio, Indiana, Illinois, and Missouri. In Ohio people from the middle states formed the largest element, while the Southerners outnumbered the New Englanders. In Indiana and Illinois the Southern element was in the ascendancy. The main trade outlet for this region was down the Mississippi River, and the development of the cotton states of the Southwest gave the people of the upper Mississippi Valley a market for their produce. Without a market a pioneer community can make little progress; in fact it usually retrogrades, as did many of the mountain communities of the South. As the people of the Gulf States devoted themselves more and more to cotton and sugar, they had to purchase their food supplies from other producers. This demand was met by the upper Mississippi region. Pork, bacon, lard, beef, butter, cheese, corn, flour, and whiskey were sent down the Mississippi in large quantities, and Tennessee, Kentucky, and the region North of the Ohio underwent a development no less striking than that produced in the Southwest by the cultivation of cotton.

The North, too, shared in the prosperity of the South and West, for the West now had the means to purchase goods freely from other communities. Traffic up the Mississippi was much more difficult and expensive than down. Hence the West bought its supplies from the middle states and New Eng-

land. What these states could not supply from their own manufactures they imported from abroad, and the goods purchased abroad were paid for in Southern cotton and carried in New England ships. This three-cornered trade, which first opened up internal commerce and made western development possible, was all based on cotton and slavery. Slave labor thus appears to have been an economic necessity in the rapid development and wonderful progress made by the United States during the first half of the Nineteenth century. A slower development might have been better for the South, but we would have missed the opportunity of acquiring the vast stretches of territory which now form our Southwest.

The political ascendancy of the South in the affairs of the Union depended on her ability to hold the West in alliance. Notwithstanding the fact that the West uniformly favored a protective tariff, it regularly voted the Democratic ticket in presidential elections, the only exceptions being when Clay and Harrison, both Western men, were candidates. Clay carried Ohio in 1824 and in 1844, and Harrison carried Ohio and Indiana in 1836, and Ohio, Indiana, and Michigan in 1840. But as late as the elections of 1848 and 1852 the entire electoral vote of Ohio, Indiana, Illinois, Michigan, and Wisconsin was cast for the Democratic ticket. In 1856, Fremont, the candidate of the new Republican party, got thirty-four votes in this region and Buchanan only twenty-four. In 1860 Lincoln got them all. The South's hold on the West was due to two things: first, the Southern origin of the earlier settlers; and second, their dependence on the Southern market. The loss of the West in 1856 and 1860 was likewise due to two causes: first, the influx of settlers from the middle states and New England, bringing with them anti-

slavery sentiments; and second, the growing importance of the eastern market reached by the Lake traffic and railroads. It was the loss of the West that left the South in political isolation and forced the issue of State's rights, the only thing she had left on which to fall back.

The Tariff.—In 1816, when the manufactures which had sprung up during the long period of European wars in which the United States became finally involved were in danger of being swamped by the accumulated products of European manufactures, Madison, Jefferson, Calhoun, and other Southern leaders favored a protective tariff. They wanted to see the United States a self-sustaining nation, commercially and economically independent of the old world. After 1816, however, the South was almost a unit and practically completely so after 1820 against protection. The West favored protection because it was interested in the development of home markets and wanted a surplus revenue to be expended on internal improvements. Hence it voted almost solidly for an increase of duties in 1824, 1828, and 1832. With the growth of the Southern market for its products the West became less insistent on protection and in 1846 voted for the Walker tariff, which was almost a free trade measure.

The middle states voted almost solidly for protection throughout the entire period under consideration. New England was at first divided between her manufacturing and her commercial interests. This section voted against the act of 1824 by a vote in the house of 23 to 15, and against the bill of 1828 by a vote of 23 to 16. But the manufacturing interests were becoming more important than commerce and shipping, and New England was soon drawn into the protectionist column. Daniel Webster made a strong argument against protection in 1824 and

spoke in favor of it in 1828, claiming that the act of 1824 had been accepted as a permanent policy, and that under this pledge large amounts of capital had been invested in manufacturing enterprises which were now dependent upon protection.

The tariff of 1828 met with determined opposition from the South. The act of 1832, a return in the main to the more moderate policy of 1824, was designed to appease the South, but it had the opposite effect. The Southern leaders were afraid that the acceptance of a compromise would fasten the protective system permanently upon them. Calhoun had now become the acknowledged leader of the South, and he chose as his weapon of defense an extreme form of the doctrine of State sovereignty, nullification. This doctrine had been advanced by Kentucky in her protest against the Alien and Sedition acts, and it had been invoked by the New England States in opposition to the second war with England. It has always been the refuge of the minority, and it was used by Calhoun to good effect in 1832. The South was, however, divided against itself. Had not Andrew Jackson been in the presidential chair the outcome might have been very different. As it was, the Compromise of 1833 was a victory for Calhoun and the South. Except for the brief period of 1842-46, when the duties were restored to the general level of 1832, the protective principle received no further countenance from the national government until the Morrill bill of 1860-61. Thus before the slavery issue became acute, the tariff question had established the leadership of Calhoun and developed in an extreme form the doctrine of State's rights.

Public Land Policy and Expansion.—Agriculture is naturally expansive, while manufactures require concentration of both population and wealth. The

rapid settlement of the West fitted in well with economic conditions in the South, for the continuance of the plantation system necessitated the removal of the surplus population, both slave and free, to new lands. On the manufactures of the North, however, the effect of the movement was adverse, for the continual drain on the population of that section kept wages high. While the South favored the rapid sale of public lands in large tracts and at low prices, the North advocated restricted sales at higher prices, the revenues thus derived to be used for internal improvements. How wide apart the two sections were on this question became evident in the great debate between Hayne and Webster in 1830 on Foote's resolution to inquire into the expediency of limiting the sale of public lands. The resolution was received as an attack upon the South. Hayne maintained that interference with land sales would check the growth of the agricultural states, contribute to the upbuilding of manufactures, and thus perpetuate the system of protection, which was such a burdensome tax on the South. The debate took a wide range and marked the opening of the great constitutional struggle between North and South which lasted for thirty years. Clay's preëmption bill was a compromise. Land sales were to be continued at low prices, but in restricted tracts to actual settlers. This policy was continued under various acts until the war.

In like manner the South favored territorial expansion and the North opposed it. It was under Southern leadership that Louisiana, Florida, Texas, and the Mexican cession were added to the Union, thus rounding out our continental territory to its full extent. Probably no question in American history has been more grossly misrepresented than that of territorial expansion. The annexation of Texas and the war with Mexico in particular have been repre-

sented as the result of a slaveholders' conspiracy. But the impartial historian will unquestionably adopt the saner view expressed by John Bassett Moore, who says: "By a school of writers whose views have had great currency, the annexation has been denounced as the result of a plot of the slave-power to extend its dominions. But, calmly surveying the course of American expansion, we are forced to conclude that no illusion could be more complete. It would be more nearly correct to say that, but for the controversy concerning slavery, there would have been no appreciable opposition in the United States to the acquisition of Texas."

Conclusion.—One of the most remarkable facts in American history is the long-continued political dominance of the South, first under a succession of Virginia statesmen and then under Calhoun and other leaders from the cotton states. In fact the South gained too many political victories for its own good. It forced the national government to accept its tariff policy, its expansion policy, and to a less extent its public land policy. But these victories simply increased sectional jealousies and antagonisms, and by a process of elimination left slavery in the forefront. As long as the tariff and national expansion were leading political issues, the South could command enough votes to control the national policy. But with the elimination of these issues the attack of the North was concentrated on the single issue of slavery and assumed the character of a moral crusade.

BIBLIOGRAPHY.—Ballagh, J. C.: *White Servitude in the Colony of Virginia* (Baltimore, 1895); *Slavery in Virginia* (Baltimore, 1903), and *Southern Economic History; Tariff and Public Lands* (Am. Hist. Assn., Annual *Report*, 1898, pp. 221-263); Bogart, E. L.: *Economic History of the United States* (New York, 1908); Bruce, Philip A.: *Economic History of Virginia in the Seventeenth Century* (2 vols., New York, 1896); Callender, G. S.: *Selections from the Economic History of the United States, 1765-1860* (Boston, 1909); Coman, Kath-

erine: *Industrial History of the United States* (New York, 1905); DeBow, J. D. B.: *Industrial Resources, etc., of the Southern and Western States* (3 vols., New Orleans, 1852-53); Garrison, G. P.: *Westward Extension* (*Am. Nation*, Vol. XVII, New York, 1906); MacDonald, Wm.: *Jacksonian Democracy* (*Am. Nation*, Vol. XV, New York, 1906); Phillips, U. B.: *History of Transportation in the Eastern Cotton Belt to 1860* (New York, 1908); Wright, C. D.: *Industrial Evolution of the United States* (New York, 1907); United States Census *Reports*, 1790-1860.

JOHN HOLLADAY LATANÉ,
Professor of History, Washington and Lee University.

THE ECONOMIC CONDITIONS IN THE SOUTH DURING THE CIVIL WAR.*

AT the beginning of the war the South had relatively few manufactures, either large or small; raw products were the main achievement of her labor. Her internal commerce was chiefly in agricultural products and slaves; both made at home. Nearly all her external commerce was the exchange of staples, chiefly cotton, for iron, salt, clothing, and other articles of prime necessity, which she might have manufactured for herself. Although her coastline was thousands of miles in length, she had little shipping. The only important approach she was making toward the condition of the modern free labor community, was her railroad system; and that was in the earliest stage of development, very far from the main trunk and through lines North and South, East and West, that are now helping her onward. The free labor of the North had added to its diversified agriculture, signal progress in manufactures and commerce; and she had long been to the South chief buyer and seller, carrier, factor, and middleman.

*For additional information see articles, "The Finances of the Southern Confederacy" and "The Labor Force and Labor Conditions, 1861–1865."

The first important economic effect of the war upon the South was that it stopped external trade—an activity scarcely to be sacrificed for a short time by a community such as the North, but even more vital to the South whose production could not go on unless it sold its products to outsiders. The very first thing for the South to do, if possible, was to open direct trade with Europe. She had but little hard money, but in her cotton on hand and in prospect she had great store of hard money's worth. Had she managed to use this cotton as Stephens said, in May, 1861, she ought to do—backward as was her development in varied industries, manufactures, internal and external transportation; inferior as she was in numbers, nearly half of her ablebodied males being non-combatants—her war chest of gold would have been unfailing and utterly beyond the capacity of the North to equal; and soon trade with Europe would have supplied her with every need, even rams and ironclads to keep open her ports and navigable rivers. But the blockade, which she had neglected to crush in its beginning, became at last so stringent that the greatest exchangeable resource she possessed was made practically unavailable—nay, much of it by capture and advantageous trading through the lines was turned into a Northern resource.

The blockade had an immense and fatal effect upon Southern war economics. The transformation of the North, which had enjoyed much of the South's external commerce, into an alien enemy with whom she could trade only by stealth, joined with the blockade, which shut the South from the rest of the outside world that was eager for her cotton, put a noose around the neck of the South, which was drawn tighter and tighter until the victim collapsed.

The production of cotton and tobacco, two great sources of Southern income, nearly stopped; the agri-

cultural basis had to be shifted to their products and the employment of all the labor force was practically transferred to furnishing food and clothing for the soldiers and non-combatant population. This change from a basis of staple export or money-crop raising and the shifting of much labor to unaccustomed occupations was prodigious even for a time of peace when adequate direction for reorganization could be had. But in a time of war, with the direction of women and superannuated men to transfer and readapt costly slave labor, whose subsistence as non-workers or on non-working days devolved upon the owner, to new and totally different kinds of production in agriculture and manufactures, was to tie a millstone of expense around the necks of producers, in the obligation to maintain a huge percentage of the inadaptable or incapacitated invalids, and children too young to labor. This wrought such a decline in the price of slaves that it neutralized the value increment due to their easy propagation. What had been an accumulation of value now changed into a crushing increase of expense. Particularly disastrous was the blow to the states which derived their chief profit in slave-owning from sales of their slaves to the farther South.

The substitution of grain crops in the place of cotton and tobacco was very extensive, and meat production likewise largely increased; small-scale wool making, carding and spinning both wool and cotton to clothe the soldiers, and also the non-combatant population, became a great activity on the plantation, for mills and factories were few and far between. Products which were not for the army and government were now salable only in local markets—a momentous change from the shipping of products, such as cotton, to New York or to a foreign market.

The invaders steadily occupied and controlled

more and more the facilities of Southern transportation, railroads and navigable rivers, as these were the lines of easiest penetration. The Confederate government monopolized the rest, and thus the restriction to the local market became greater and greater to the end. The transportation system, available to the public, was in many neighborhoods so inadequate that the surplus of a flourishing county could not be sold to another in great want less than fifty miles away.

The iron and rolling stock of the railroads, fast wearing out under the great carrying strain, could not be replaced, as the ample mines had not been developed; and the metal was needed in abundance by the government for ordnance, armor, arms, and by the people for a thousand things. But the scarcity that pinched more than that of any other was lack of salt, so indispensable was it to preserve bacon, which was the great bulk of Southern meat. The few salt springs were worked to their full capacity, the product being hauled away in wagon trains as long as those of an army. In very many places where it could not otherwise be had, that which had gathered in the dirt floors of smokehouses from prodigal spillings of years was recovered by leaching the impregnated earth, which was put into hoppers like those used to make lye from ashes, and the drippings were then evaporated.

Parched grain—preferably rye—came into general use in place of the coffee common before the war on every Southern table; tea was made from the leaves of wild holly, from sassafras roots, and other plants, and these beverages, and pastry were sweetened with cane or sorghum syrup in localities where sugar was not produced. Homespun rapidly supplanted as clothing the costly or unobtainable calico and muslin, silk, satin, and all fine materials in women's

dresses. The uniforms and under-clothing of the soldiers, their hats and shoes, were all homemade. Spinning wheels and hand looms came out of old hiding places, or were made new by slave carpenters; and yarns, towels, cloth for men and women's use of all sorts were made comparable to some degree in neatness, appropriate dye, and usefulness to the manufactures of which they were a deft imitation. To the superintendence of making clothing Southern mothers devoted themselves day and night, sacrificing themselves for the comfort of the soldiers and the maintenance of Southern independence. They spent hours every day together, diligently knitting woolen socks, that would not wrinkle like cotton ones and make the marching soldier foot-sore, while the superannuated fathers sent to their soldier sons brogan shoes made of their own leather, tanned in nearby tan-yards. The broad-faced hammer that flattened the sole and upper, the knife that shaped them, the thread, the bristle that pointed and the wax that smoothed it, the awl that opened its way, and the mallet that drove the awl, were in cases every one made on the plantation.

There was quite general reversion to the long discarded system of small-hand production; and the quickness with which this reversion took place is amazing to one who is familiar with the ante-bellum custom of buying instead of making things.

The only large-scale manufacturers were those of the Confederate states government. Its establishments for making salt, whiskey, small arms, cannon, nitre, gunpowder, and other munitions of land and naval war that need not be named, were larger, their output greater, and their conduct far better than would have seemed possible at the beginning of the war, even to one exceptionally familiar with the South.

Self preservation increasingly impelled the South against the barrier intended to isolate her from all external commerce—the blockade. Here and there she made considerable breaks in it, in two ways, in spite of the progressively increasing activity of the blockaders: (1) a great supply of munitions of war was brought in, likewise a considerable quantity of commodities for the people, though far less than was needed; (2) trading through the lines became important. As blockade-running decreased, this trading increased, becoming all the while greater as the widening Federal occupation of Southern territory enlarged the opportunity of United States troops to get cotton. The world needed cotton more and more sorely as the blockade increased the cotton famine, and trade in such of this staple as could in any way be conveyed across the border was so lucrative that high officials of each belligerent—to say nothing of the multitude—were tempted into it. The border line was over a thousand miles long, and therefore it was impossible to picket it effectively except in a few places. As the Southerners needed nearly every necessity but the raw products of their section, and the Northerners needed cotton, tobacco, and a few other Southern commodities, and could pocket a huge profit in exchanging for them all the other things in demand, this illicit trade became active at many points, and it was only restrained from acquiring a greater volume by the meager Southern railroad and other transportation facilities at the command of the illicit traders.

The Confederate irredeemable, not legal, tender, currency had important economic effects. The authors of the system cited potent American examples of irredeemable paper kept at par; Jefferson had said that Virginia in 1775 issued a paper currency "bottomed on a specific tax for its redemption, bearing

an interest at 5 per cent., and which was all taken out of circulation by executors, guardians, etc. We then issued bills bottomed on a redeeming tax, but bearing no interest. These were received, and never depreciated a farthing." Connecticut, 1771-74, and Pennsylvania for thirty years beginning with 1725 had, it was said, irredeemable paper that did not depreciate. That of Pennsylvania was at first $75,000 in amount and it was gradually raised to $3,000,000, of which Franklin, in 1764, asserted that there had not been caused by this money any alteration in the price of the necessaries of life when compared with silver. North Carolina had $400,000 of such currency, that during the twenty years which succeeded the adoption of the Federal constitution, maintained itself without depreciation. Calhoun and the classical economists, from Adam Smith and Ricardo, were quoted to show that a carefully limited paper currency safeguarded by taxation could maintain its value. But these plain economic principles were thrown to the winds. The Confederate states provided no taxes to absorb over-issues. And there was, until the heroic surgery of the act, passed February 17, 1864, which wiped out one-third of the outstanding circulation, practically no restriction of issue. To serve the interest of Northern purchasers of cotton, counterfeits poured in so copiously that officials receiving them innocently were relieved by legislation for fear of prosecution. It was easy to make facsimiles of all the bills, of what we call the "old issue"—that is, those preceding the act of February 17, 1864—rude and primitive as were the plates from which they had been struck. Leaving the counterfeits aside, the volume of circulation was, in the early spring of 1864, many times what the Confederacy needed. But the counterfeits came forth prodigally. One cannot conjecture the figure that they

had reached when the funding act was passed. From Winthrop Hilton's confession to Alexander Del Mar, it may have equalled that of the genuine currency. A steadily inflating currency means steadily rising prices—a condition that makes a speculator out of every adventurous soul, with money or credit; for it is self-evident until the crash comes that to buy necessaries at the market price of to-day and sell them at that of to-morrow, is surely to pocket a profit. Two measures temporarily curtailed the swollen circulation, effecting a considerable fall of prices for a while, beginning with the spring of 1864. One was the act last mentioned, which, according to the statement of Jefferson Davis, reduced it from six hundred million in December, 1863, to two hundred and thirty millions by July 1, 1864. The second was the very great superiority of the new issue to the old issue plates, by which obstructions were now raised to counterfeiting.

But this increased value of Confederate money gave place in a few months to greater depreciation than ever. The speculators prospered, but for the people at large, living by giving something for something, and shunning the tax-in-hand gatherers and impressments, the use of money in making exchanges was displaced by the old custom of barter. That at the 1st of May, 1865, twelve hundred of paper dollars would buy only one of gold, was cited by the brokers of that time as the dying gasp of Confederate money.

In general, the most prominent characteristic of the change made in Southern production and distribution by the war until 1865, was the inversion of all former methods and processes. Every common activity and business was topsy-turvied, and a well-ordered and smoothly running system was replaced with a maze of economic anomalies. When peace

came, a normal state returned, slowly banishing the expedients of war and poverty, so that one can think of but a single conspicuous existing survival of these war-produced expedients. That is the continued cultivation of sorghum in middle Georgia, where, however, it no longer takes the place of sugar, but is made to yield syrup, and also proves of use for soiling hogs and milch cows.

What has been said is intended to accentuate the great epoch-making change wrought by the war in the Southern economic system, the completion of the emancipation of the slaves in 1865. Billions of Southern property became utterly worthless the moment that the South had laid down her arms. Slaves were practically a large proportion of her property. But there was something in addition to this phase of the loss; the South's wealth-creating machinery was wrecked beyond possibility of repair. France paid the enormous Napoleonic war indemnity in an incredibly short time, because her wealth-creating machinery had been left intact upon her crushing defeat. But when the labor of freedmen supplanted that of slaves, even the far greater cheapness of free labor, when skilled or of white men, could not in the case of the unskilled Southern negroes compensate for the prodigious inferiority of the blacks to the whites as laborers. When idling freedmen took the place of steadily working slaves, the South was doomed to flounder in the fathomless gulf of impoverishment, until later generations should evolve an adequate white-labor class. For forty-five years she has been constructing her new white-labor machinery. And she has accomplished much. More than half of her cotton is now grown by whites. Their economic incursions from all sides drive the negroes out in increasing ratio. Intensive farming, which is above the ability of the common negro, helps the

white more and more every year. The rapid rise of cotton lands in price in localities that the negroes leave, is a factor growing in power. And the boll-weevil, that most influential stimulator of high-class farming that the South has ever had, as now seems probable, will traverse the entire territory of cotton cultivation, in its negro-eliminating course. Those of us on the watch tower are looking with all our eyes at the Yazoo Delta, to see what the weevil will do to the crowds of negroes now misusing one of the richest spots of ground in America. Full recovery from the blow dealt the South by emancipation, in 1865, can not be expected until its cotton is practically all of it grown by white labor—a time probably not very far off.

BIBLIOGRAPHY.—Acts of the Confederate Congress (especially those of May 1, 1863, and January 30, 1864); Bruce, P. A.: *The Plantation Negro as a Free Man* (New York, 1889); and *The Rise of the New South* (Philadelphia, 1905); Calhoun, John C.: *Speech* of Sept. 19, 1837; Fleming, W. L.: *Civil War and Reconstruction in Alabama* (New York, 1905); Phillips, U. B.: *A History of Transportation in the Eastern Cotton Belt to 1860* (New York, 1908); Reed, John C.: *The Brothers' War* (Boston, 1905); and *The Old and New South* (appendix to *idem*); Schwab, J. C.: *The Confederate States of America* (New York, 1901); Smith, E. A.: *History of the Confederate Treasury* (*Publications of the Southern Hist. Association*, Michigan, May, July, Washington, 1901); *The New York Illustrated News* (April 11, 1863, advertisement of Winthrop Hilton); Toombs, Robert; *Letter of*, August 29, 1863 (reprinted in the *Daily National Intelligencer*).

JOHN C. REED,
Author of The Brothers' War, etc.

LIBRARY OF
LAMAR STATE COLLEGE OF TECHNOLOGY